



Economic Benefits of Gender Equality in the EU

EU and EU Member States overviews

Acknowledgments

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More about the study: <http://eige.europa.eu>

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Foreword

Gender equality is one of the founding pillars of the European Union and much progress has been made over the years to improve the everyday lives of women and men, especially with the creation of more equal opportunities. EIGE's Gender Equality Index demonstrates a positive trend of development in the domain of employment, reflecting the EU's focus on economic and labour market policy. However, large gender gaps persist when comparing educational attainment, pay and income, labour market activity rates and the provision of unpaid work and distribution of time between women and men.

Lower wages and employment prospects for women also increase their risk of poverty or social exclusion, especially later in life when they are dependent on a pension that relies on previous earnings. When it comes to education, women are largely missing from STEM (Science, Technology, Engineering and Mathematics) fields, which have promising job prospects at present and in the future. In short, women's talents are not being used to the full, which is putting a strain on individuals, employers and the society at large.

The European Institute for Gender Equality has produced sound evidence that confirms improvements to gender equality will generate economic growth for the EU and benefit individuals and society at large. We looked at the economic impacts of reducing gender inequalities in STEM education, labour market activity and pay. We also considered the demographic changes when these gender gaps are reduced and a more equal distribution of unpaid care work is achieved.

Our findings prove that more gender equality boosts economic growth. The evidence confirms that improvements to gender equality would generate more jobs for the EU – up to 10.5 million additional jobs by 2050. Gross Domestic Product (GDP) per capita would also be positively affected and could increase up to nearly 10% by 2050. Another important finding shows that addressing different gender inequalities together is likely to generate more positive impacts, rather than tackling them one by one in isolation.

From a methodological point of view, this study is unique in the EU context. It is the first of its kind to use a robust econometric model (E3ME macroeconomic model) to estimate the macroeconomic benefits of gender equality in a broad range of policy areas.

The study shows that promoting gender equality and mainstreaming the different perspectives of women and men into the policy areas of education, labour market participation and pay, among others is essential not only for reasons of social justice and fairness but it is also essential for smart, sustainable and inclusive growth. Structural changes are necessary to avoid permanent losses in wealth and sluggish growth rates and to put the European economy back on an upward sustainable growth path.

On behalf of the Institute and its team, I would like to thank all the experts, researchers and my colleagues at EIGE who contributed to this publication.

Virginija Langbakk
Director

The European Institute for Gender Equality (EIGE)

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Introduction



In 2015-2016, the European Institute for Gender Equality commissioned research to assess how improvements in gender equality can contribute to sustainable, inclusive and smart economic growth of the EU. This study is unique in the EU context, as it uses a robust econometric model to estimate economic impacts of improved gender equality in several broad areas such as education, labour market activity and wages. It also considers the demographic impact of such improvements. There has been no previous study that attempted econometric modelling of such a broad range of potential impacts of improved gender equality in the EU.

Main findings of the study

Gender equality and equal opportunities in the labour market have improved over recent decades as a result of legislative, social and cultural changes towards women in the labour force. However, there are still large persistent gender gaps between women and men when comparing their educational attainment, income and wage rates, labour market activity rates and provision of unpaid care work and distribution of time.

The results of the modelling⁽¹⁾ show that encouraging more active participation of women in the labour market and increasing their attainment in STEM (science, technology, engineering and mathematics) education would have a largely positive effect on GDP per capita and on employment of women. The positive impacts are due to an increase in productivity and an improvement in the potential productive capacity of the economy.

In sum, the study results show that higher gender equality would lead to a large increase in the number of jobs that would benefit both women and men. There would be up to 10.5 million additional jobs in 2050 due to improvements in gender equality, with about 70 % of these jobs taken by women. The study further shows that improving gender equality has strong, positive GDP per capita impacts that grow over time. The results show a positive impact of gender equality measures on economic growth due to more women in STEM education, higher labour market participation of women and a lower gender pay gap.

The study demonstrates that there is a clear need to introduce gender equality measures as soon as possible, in the

key policy areas of education and employment, in order to achieve sustainable socioeconomic development and growth. The study forecasts an improvement on employment rates as early as 2020, and the strongest impact on labour market participation and GDP per capita across the EU in the medium (2030) and long term (2050).

The GDP impacts of gender equality policies compare well against impacts of other labour market and education policies, making gender equality a highly relevant policy measure to promote economic growth. Moreover, the results also show that increased gender equality will help to improve employment, address productivity challenges and population ageing issues in the EU.

Putting gender equality at the heart of the follow-up strategy of Europe 2020 and other policy reforms such as the European Pillar of Social Rights would make the economic system inclusive, enabling women to fulfil their full potential, and hence benefiting women and the whole of society. This would enable the EU to achieve smart, sustainable and inclusive economic growth.

Higher gender equality would lead to:

- Between 6.3 million and 10.5 million additional jobs in 2050 due to improvements in gender equality by addressing gender segregation in educational choices and increasing the participation of women in STEM, with about 70 % of these jobs taken by women.
- An increase in employment productivity and in the potential productive capacity of the economy as a result of addressing the under-representation of women in sectors with skill shortages and good employment prospects such as STEM.
- Positive GDP per capita impacts that grow over time. Improving gender equality would contribute to an increase in GDP per capita of up to 9.6 % in 2050 in the EU.
- Individual gains of up to 12 % increase in GDP per capita by 2050 in EU Member States with lower gender equality ⁽²⁾ if gender equality measures were implemented.

⁽¹⁾ For a full description of the study results, please see European Institute for Gender Equality (EIGE) (2017), Economic Benefits of Gender Equality in the European Union: Report on the empirical application of the model, available at http://eige.europa.eu/sites/default/files/documents/mh0217174enn_web.pdf

⁽²⁾ Based on current levels of gender equality as measured by EIGE's Gender Equality Index.

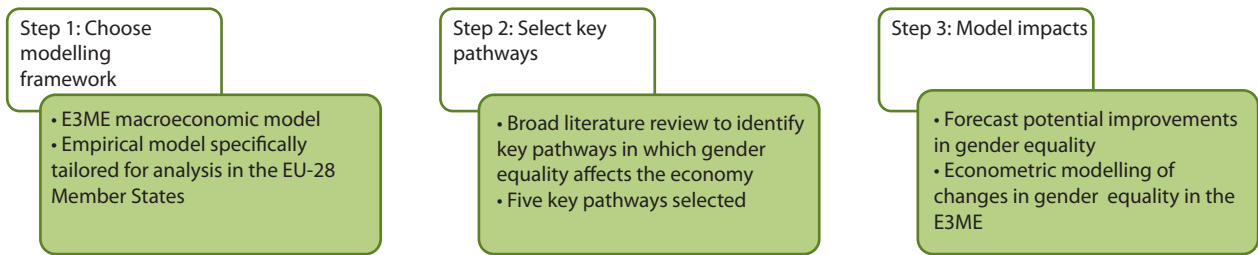
Overall methodology of the study

The methodological approach of the study involved three key steps summarised in Figure 1.1 and described in more detail below:

Step 1: Choosing the macroeconomic modelling framework

To estimate the economic impacts of improved gender equality this study used the E3ME macroeconomic model. E3ME is an empirical macroeconomic model tailored specifically to model outcomes at EU and Member State levels. The

Figure 1.1 Key methodological steps



model includes a detailed representation of the labour market and captures interactions at sectoral, as well as national, level. It is a model widely acknowledged as suitable for modelling of economic issues at EU level. The nature of the E3ME model only allows for modelling impacts of improved gender equality that are robustly evidenced at macroeconomic level. Impacts documented only through microeconomic or qualitative research are therefore excluded from modelling.

Step 2: Selecting pathways through which gender equality affects the economy

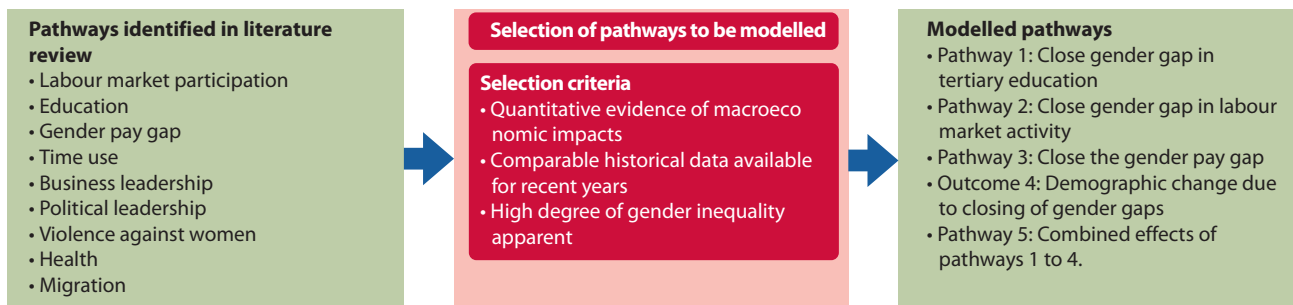
An extensive literature review was carried out to identify possible pathways/outcomes ⁽³⁾ through which gender

equality can affect the economy. The socioeconomic impacts of gender equality were then discussed with a forum of independent experts to select impacts that could be modelled at macroeconomic level. The pathways modelled in this study were selected based on three main criteria, as summarised in Figure 1.2:

Step 3: Modelling economic impacts of selected pathways

Firstly, forecasts of potential improvements in gender equality in labour market activity, education participation and wages were developed. A forecast of demographic changes resulting from such improvements was also developed,

Figure 1.2 Pathway selection



⁽³⁾ The term 'pathway' refers to a certain gender inequality, for which at least a theoretical link to macroeconomic performance has been established in literature. The term 'outcome' refers to potential consequences of gender equality (i.e. change in fertility) that can affect the performance of the economy.

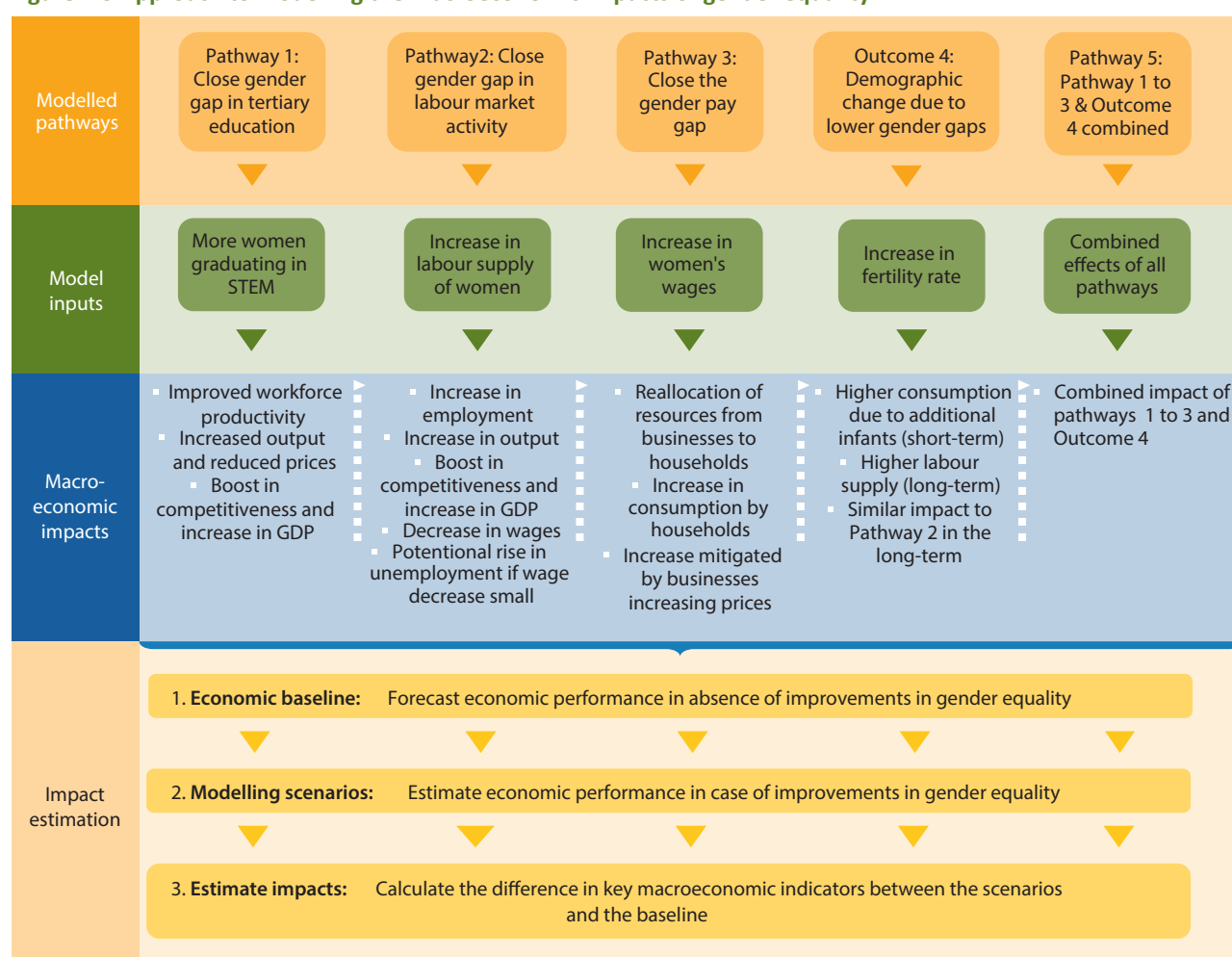
reflecting evidence that higher gender equality tends to increase fertility rates ⁽⁴⁾. These forecasts were based on a detailed analysis of likely impacts of adopting new gender equality measures across the modelled pathways. The modelling of the pathways focused on areas where women were disadvantaged compared to men — closing of gender gaps was assumed to be achieved by improving the situation of women rather than worsening the situation for men.

These forecasts were then inputted to the E3ME model to assess the wider socioeconomic impacts of gender equality on GDP, employment and other macroeconomic indicators.

The forecasts were entered separately for each pathway/outcome to allow for estimating socioeconomic impacts of each individual pathway/outcome and to avoid double counting. The cumulative effect of combined pathways 1 to 3 and outcome 4 was also modelled to provide a comprehensive estimate of the economic impacts across all pathways and to analyse their possible interactions.

The impacts were estimated by comparing future economic performance in the case of continued historical trends (baseline case) to scenarios which forecasted improvements in gender equality. The assessment approach is described in more detail in Figure 1.3:

Figure 1.3 Approach to modelling the macroeconomic impacts of gender equality



⁽⁴⁾ For references, see pages 21-22 of this report and also European Institute for Gender Equality (EIGE) (2017), Economic Benefits of Gender Equality in the European Union: Report on the empirical application of the model, available at http://eige.europa.eu/sites/default/files/documents/mh0217174enn_web.pdf and European Institute for Gender Equality (EIGE) (2017), Literature review, existing evidence on the social and economic benefits of gender equality and methodological approaches.



Resources resulting from the study

Besides the present publication, the outputs of this study include eight additional publications, the content of which are summarised below:

Literature review, existing evidence on the social and economic benefits of gender equality and methodological approaches

This publication includes a summary of the literature on gender equality reviewed at EU and Member State level. The review can be divided into three parts, whereby the first part includes research studies that either theoretically or empirically examine the economic impact of gender equality. In this first part, the review includes sections on theoretical studies focussing on the analysis on the contribution of gender equality to economic growth. The summary further includes a few empirical studies that attempt to quantify the causal effect of different forms of gender inequalities on the economic growth.

In the second part, the publication includes a review of studies that analyse the economic benefits of gender equality in different policy areas, including:

- Gender equality in education;
- Gender equality in labour market participation;
- Reducing gender earnings gap;
- Women's leadership in firms;
- Women in politics;
- Ending violence against women.

Further sections analyse literature on gender equality, social reproduction and care and unpaid work as well as on the impact of health inequalities on economic outcomes.

Building on the results of the literature review at EU and Member State level the study team selected five methodological examples to be reviewed more in-depth and explored how they compare to the E3ME model and can inform the subsequent phases of the study. A short list of examples was developed based on several criteria focusing on added value in terms of methodology and learning effects. The selected examples were analysed in depth and the findings were presented in a standardised template. This analysis is published as an annex to the summary of the literature review.

Report on the empirical application of the model

This report summarises the methodological approach, outlines key assumptions that were applied and presents the socioeconomic modelling results. The report is divided into five main chapters that outline:

- the research that informed the modelling approach;
- the modelling approach, including model interlinkages in the E3ME macroeconomic model, key modelling assumptions and information about the baseline scenario;
- the gender equality pathways that were modelled;
- the socioeconomic modelling results for the gender equality pathways; and
- the key conclusions that can be drawn from the analysis.

It also includes a *methodological report on testing of the model* (Annex 4) which consists of four methodological notes. They describe the study's modelling approach in detail and its application in each of the four pathways that describe how increased gender equality is assumed to affect the economy (education, labour market activity rates, wages, and equal sharing of unpaid care work related to demographic changes). A fifth note details the specific E3ME equations used in modelling economic impacts of gender equality.

Briefing paper on how improved and advanced gender equality has economic and social benefits

This briefing paper shows the benefits of gender equality in light of the Europe 2020 Strategy to achieve smart, sustainable and inclusive economic growth and possible follow-up policy developments. It describes the present policy framework and recent developments and assesses the goals of Europe 2020 in the light of economic benefits of gender equality in the medium and long term.

Three briefing papers presenting the results of the study

- A briefing paper on the overall economic impacts of gender equality that highlights the main results of the study;
- A briefing paper that shows how minimising the gender gap in STEM (science, technology, engineering and mathematics) education can contribute to economic benefits across European countries; and

- A briefing paper that focuses on how increasing the employment rate and closing the gender pay gap impact economic growth in the European Union.

Briefing paper on the proposed theoretical framework and model

The briefing paper describes the methodology to model the macroeconomic impacts of improved gender equality used in the study. It summarises the key methodological steps followed by the research team; introduces the E3ME macroeconomic model to estimate the impacts of improvements in gender equality at EU and Member State levels; summarises the research activities that were carried out to identify pathways through which gender equality can influence the economy; and outlines the specific modelling scenarios that were developed to assess the economic benefits of each of the selected pathways.

Factsheet on the proposed theoretical framework and model

This factsheet summarises the methodology to model the macroeconomic impacts of improved gender equality used in the study. It presents the three key methodological steps: the modelling framework, the selection of pathways suitable for macroeconomic modelling, and the modelling of selected impacts of improvements in gender equality.

About this publication: EU and Member States overviews

In the first phase of the study the research team reviewed the literature in EU Member States and at EU level in order to map evidence of economic impacts of gender equality in the areas of labour market participation, education, sharing of unpaid care work, pay, health, decision-making, violence against women and migration. The overviews present evidence found in all or some of the abovementioned areas.

The primary focus was on reviewing macroeconomic studies with quantitative models. In all Member States, microeconomic studies statistically analysing outcomes related to macroeconomic indicators and quantitative impact assessments/cost–benefit analyses were also considered. Qualitative studies were considered only in Member States where no or very little quantitative research is available.

More specifically, the overviews review EU-level and national research published since 2000 to summarise:

- evidence of quantifiable economic impacts of gender equality and their magnitude;
- explanations of links between gender equality and its economic impacts, including causal explanations of why gender equality can lead to economic growth;
- methods used to measure economic impacts of gender equality; and
- different scenarios used to model improvement in gender equality.

The main purpose of the country case overviews is to identify economic impacts of gender equality that can be modelled at macroeconomic level.

Status quo at a glance

At EU level, evidence exists of the positive impact of gender equality on labour market participation — a few of the reviewed studies document this link and its consequences for economic growth and fertility. Some, although less extensive, literature documents positive macroeconomic impacts of gender equality in education. A few studies also look at the economic consequences of increasing the number of women in leadership positions, but this research focuses on specific firms and is difficult to transfer to macroeconomic modelling. There is one EU-wide study that aims to quantify costs of violence against women. In other areas, there is no comprehensive evidence of economic impacts of gender equality at EU level.

At national level, the following evidence is available:

- In almost all Member States there is research discussing the impacts of gender equality on labour market participation of women. However, only in five Member States does this research use macroeconomic modelling to quantify impacts of changes in labour market participation of women. In other Member States, it relies on micro-econometric analysis or provides only descriptive statistics and qualitative analysis.



- In 14 Member States, micro-econometric analysis has been carried out to identify causes and size of the gender pay gap. However, it is difficult to compare this research across Member States due to considerable variation in analytical methodology across studies.
- In 13 Member States, costs of violence against women have been quantified in cost–benefit analyses.
- Other areas of gender equality receive less attention — economic impacts of increased number of women in leadership positions have been explored in seven Member States; of gender equality in education in three Member States; of gender equality in health and migration in one Member State each. Much of this evidence relies on microeconomic analysis or descriptive statistics.

Given their focus, the EU and national overviews often summarise highly technical economic research and provide detail on statistical methods used in economic modelling. They are therefore suitable mainly for researchers with at least some knowledge of statistical modelling.



EU overview

This overview provides a review of available EU evidence of the economic outcomes of gender equality in the areas of labour market participation, education, sharing of unpaid care work, pay gap decision-making and violence against women. Gender equality has been a fundamental principle and a common value in the EU for decades. EIGE's Gender Equality Index shows that over the past 10 years there have been improvements in gender equality in certain policy areas. The most pronounced improvements are evident in the domains of employment, reflecting the EU's focus on economic and labour market policy.

At the European level, the analysis of the economic impacts of gender equality has focused mainly on labour

market participation and employment. Existing studies in this area attempt to quantify the gains in terms of output growth that would be achieved if the labour market participation of women increased. Another stream of the literature has analysed the impact on firms' performance of having more women on boards and in leadership positions. Limited research is available covering the benefits of gender equality in other areas where inequalities are prominent.

Table below provides an overview of available evidence on the microeconomic and macroeconomic benefits of gender equality in the EU. These are also presented in more depth in the subsequent sections.

Summary table of quantitative studies on economic benefits of gender equality

	Economic indicator	Evidence of economic impact	Description of empirical approach
Education	Fertility rate and per capita income growth	In Europe over the last millennia, increasing women's human capital has decreased fertility and increased per capita income growth (Lagerlof, 2003).	Simulation exercise
Education	Labour productivity	Women's education has a statistically significant positive effect on productivity in the long run (Knowles, Lorgelly and Owen, 2002).	Regression analysis (OLS and 2SLS estimations)
Education	Employment	Mothers with higher education are about two times more likely to be in employment than women in the lowest education category in many EU countries (Gornick, 2012).	Regression analysis
Labour market participation	GDP per capita growth rate	Increasing gender equality in the EU labour market would increase GDP: 13 % higher GDP in the euro area with the elimination of gender employment gap (Daly, 2007). 27-29 % higher GDP for EU average with full gender balance in the labour market (Löfström, 2009). Higher GDP ranging from + 3 % in Sweden to + 19 % in Italy with increasing women's employment rate (Aguirre et al., 2012). Higher GDP growth (+ 1.3 %) with improvement in equality of opportunities (+ 1 standard deviation) and higher GDP growth (+ 1.19 %) with improvement in equality of outcomes (+ 1 standard deviation) (Mitra et al., 2015). Loss in output per worker due to gender inequality in labour market participation (- 40 % when all women are excluded from labour market) (Cuberes and Teignier, 2016).	Economic modelling, simulations and regression analysis



Labour market participation	Employment and participation rates	<p>A recent report (ITUC, 2016) finds that if 2 % of GDP was invested in the care industry, this would lead to nearly 2 million extra jobs in Germany, 1.5 million in the UK, 1 million in Italy, 600 000 in Australia and nearly 120 000 in Denmark. As a consequence, the employment rate of women would increase by 3.3 to 5.1 percentage points (and by 1.4 to 2.4 percentage points for men).</p> <p>A study by Cipollone et al. (2013) highlights that labour market reforms and changes in social policies predict almost 25 % of the actual increase in labour force participation for young women, and more than 30 % for highly educated women.</p>	Economic simulations and regression analysis
Labour market participation	Fertility	<p>Del Boca et al. (2005) show that there is a positive relation between employment and fertility across Member States. The most significant factors which facilitate reconciliation of child-rearing and work are the opportunities for part-time arrangements, the availability of child-care and parental leave options.</p> <p>In countries where it is relatively easy for women to work and have children, women's employment and fertility both tend to be higher (Daly 2007).</p> <p>A more gender-equal labour market, welfare system or households can be accompanied by higher fertility at similar or even higher levels of employment (Smith and Bettio, 2008).</p> <p>Lower labour market penalties due to childbearing breaks induce higher fertility rates (Adsera, 2004).</p>	Statistical and regression analysis
Self-employment and entrepreneurship	Aggregate productivity and income per capita	Exclusion of women from entrepreneurship and self-employment would generate income per capita loss of 10 % when all women are excluded from entrepreneurship (Cuberes and Teignier, 2016).	Calibration and simulation exercise
Gender pay gap	GDP growth rate	Higher wage gap had a marginal negative effect on growth (Schober and Winter-Ebmer, 2009).	Meta-analysis of existing studies of Blinder-Oaxaca wage decompositions
Unpaid care work	National account	In all OECD countries women do more unpaid work than men. Unpaid work represents between one third and half of all valuable economic activity which is not accounted for in the traditional GDP per capita measures (Miranda, 2011).	Statistical analysis
Leadership positions	Firm's performance	<p>More women in boards and top positions positively affect firm's financial performance:</p> <p>Greater women's representation in top positions is associated with 10 % higher rate of return on equity (<i>Report on EU companies</i>, McKinsey & Co, 2007).</p> <p>Companies with more women board members experience 53 % higher returns on equity, 42 % higher returns to sales, and 66 % higher returns on invested capital (study on Fortune 500 companies, Catalyst, 2007).</p> <p>Gender-diverse boards are associated with significantly higher firm value (study using data on the Fortune 1000 firms in 1997, Carter et al., 2003).</p> <p>The proportion of women board members is positively related to the rate of return on assets and the rate of return on equity (study on the 500 largest EU firms over the years 2010-2012, Isidro and Sobral, 2015).</p>	Counterfactual assessment
Gender-based violence	Costs	Gender-based violence (GBV) against women is estimated to cost EUR 225.8 billion (EIGE, 2014).	Extrapolation to EU of UK estimates

Overview of research methods used

Most of the studies at EU level estimate the causal direct economic effect of gender (in)equality by using regression analysis (cross-section, panel data, or both). Typically, (variations in) countries' growth rates of per capita income are regressed on a set of standard growth variables that include (variations in) different measures of gender inequality. Existing studies implementing this approach at EU level are Klasen and Lamanna (2009), Loko and Diouf (2009), Mitra et al. (2015), and Cipollone et al. (2013).

Another used tool for estimating the effect of gender equality in the labour market is evaluating what happens if all (or some) barriers to women's participation in the labour market are removed and women can participate to the same extent and under the same conditions (in terms of occupations, sectors, working conditions, career and productivity) as men. This approach is generally based on a number of assumptions such as the removal of any inequality in labour market access; the ability of the economy to offer full employment to the additional labour supply; and equality in the behaviour of women and men in the labour market. For these reasons, this approach may represent a higher bound for the estimation of the economic benefits of gender equality. Different studies exist at EU level that have implemented this approach (Daly, 2007; Löfström, 2009; Aguirre et al., 2012; Cuberes and Teignier, 2016; ITUC, 2016).

Finally, a few studies have developed and implemented modelling approaches in which some patterns that are identified at the micro-level are translated into a macroeconomic framework. This approach allows studies to better take into account the effects of improving gender equality in the economy, along with other elements that are related to the behaviour of individual agents at microeconomic level such as educational choices, entry into the labour market and household formation. An example of this approach at EU level is Eurofound (2016) report on the gender employment gap⁽⁵⁾. By means of an agent-based micro-simulation model, this study estimates what happens in a group of countries with low women's labour market participation (Ireland, Greece, Spain, Italy and Hungary), when they are endowed with 'Swedish characteristics' in terms of demographic evolution, educational attainments and conditional participation behaviour of women.

A different approach is followed by the literature addressing the economic benefits of eliminating violence against women. This type of study mostly focuses on the cost of such

violence, borne by society and by the victims, and usually does not assess its impact on GDP growth or economic development. Estimating the cost of gender-based violence requires a number of data: the extent of gender-based violence (prevalence, frequency, severity); the utilisation of services; the direct impact on victims; the impact of the violence on the employment of victims; the value placed on the reduced quality of life. The most comprehensive and best-informed report on the costs of violence against women is the report by EIGE (2014). Using detailed statistics on gender-based violence in the UK, the costs are first estimated for the UK and then extrapolated for each Member State and the entire EU on the basis of the population.

How does gender equality affect economic outcomes in the EU?

One of the main areas where greater gender equality is likely to impact economic growth is **education**. Scholars have analysed in particular the role of increasing women's educational attainment for developing countries' growth. However, positive effects of reducing the gender gap in education have also been found in developed countries, although they are typically smaller. For instance, despite the fact that women's performance and participation in tertiary education exceeds that of men in most of the EU Member States, considerable gender inequalities are still identified in the research. Women are less likely to choose science, technology, engineering, or mathematics (STEM) fields of study at graduate and postgraduate level, resulting in lower employment prospects and lower wages.

The majority of existing studies at the EU level focus on the impact of gender equality in **labour market participation** on economic growth and other macroeconomic outcomes. The impact of more women participating in the labour market is plausibly positive, even though often difficult to fully evidence. In fact, increasing women's employment will have the same (positive) effect of increasing the employment of the whole labour force, translating into higher GDP and counterbalancing the negative effect of an ageing population in developed countries. However, the expected magnitude of such effects will depend on the change in productivity of labour determined by higher employment: with diminishing return to labour, more employment in fact reduces the average individual labour productivity. The next section will discuss the main findings from research in this area.

At EU level, there are fewer studies that address the macroeconomic benefits of reducing gender inequalities in other domains besides participation in the labour market, primarily for two reasons: (i) data availability and comparability

⁽⁵⁾ At the moment of preparing the content of this publication, Eurofound report was not published; hence the data was not included in the analysis.



in other areas is limited; (ii) methodological problems are encountered when performing these analyses at EU level rather than at country level (mostly problems related to endogeneity and reverse causality). An exception is the work of Schober and Winter-Ebmer (2009) who, using data from a meta-analysis of existing studies of Blinder-Oaxaca wage decompositions, do not find any evidence that the **gender pay gap** may stimulate economic growth, as previously found by Seguino (2000) in an analysis based on data for 20 semi-industrialised countries. These findings led Schober and Winter-Ebmer (2009) to conclude that more discrimination tends to reduce growth rates. Controlling for different productivity levels of women and men, the authors find that a higher wage gap had a marginal negative effect on growth. None of their results — including those with more extended growth models — show positive and significant relations between higher gender pay gap and economic growth.

Some authors have investigated the key links of gender equality in **leadership positions** to **microeconomic** outcomes, particularly in the field of company performance. The vast majority of studies focus on a single country, to better tackle potential biases in the analysis. However, there are a few studies looking at the effect of gender diversity in leadership positions from an EU perspective.

- McKinsey & Co (2007) find that EU companies with greater women's representation in top positions outperform sector averages, with a 10 % higher rate of return on equity.
- A report by Catalyst (2007) shows that Fortune 500 companies with more women board members are significantly better performing: they experience 53 % higher returns on equity, 42 % higher returns on sales, and 66 % higher returns on invested capital.
- Using data on the Fortune 1000 firms in 1997, Carter et al. (2003) show that gender-diverse boards are associated with significantly higher firm value.
- Isidro and Sobral (2015), focusing on the 500 largest EU firms over the years 2010-2012, find that the proportion of women board members is positively related with firm financial performance, as measured by the rate of return on assets and the rate of return on equity.

Finally, EIGE (2014) provides the most comprehensive and best-informed report on the **costs of violence against women**. They are estimated for the UK (2012), which has one of the most comprehensive statistical systems on gender-based violence, and then extrapolated for each Member State and the entire EU on the basis of the population. EIGE estimates that gender-based violence (GBV) against women

costs EUR 225.8 billion (the total cost of GBV, i.e. not restricted to women only, is estimated to be EUR 258.7 billion in the EU). Intimate partner violence, which is a subset of gender-based violence, is estimated to cost EUR 109.1 billion.

Key macroeconomic impacts of gender equality

Looking at the economic effect of increasing women's education, Lagerlof (2003) has analysed long-term trends in Europe over the last millennia, and found that increasing women's human capital has decreased fertility and increased per capita income growth (Lagerlof, 2003). Furthermore, women's education has been found to have a statistically significant positive effect on productivity in the long run in European countries (Knowles, Lorgelly and Owen, 2002).

As explained above, however, the majority of existing EU-level studies focus on gender equality in the area of labour market participation.

In a paper published by Goldman Sachs, Daly (2007) simulated the effect of the elimination of the gender employment gap on the level of GDP. The author found out that aggregate output would be 13 % higher in the euro area. The author also points out that those estimates assume unchanged productivity and hours worked; however, even with diminishing marginal productivity of labour the effects would remain large.

Löfström (2009) estimates the effect of full gender equality in the EU labour market, which she assumes is characterised by: (i) a women's activity rate equalling that of men; (ii) women's part-time work decreasing to the level of men's; and (iii) women's productivity becoming equal to men's productivity. Thus, she suggests interpreting her estimates as an upper boundary of potential effect. Simulation shows a potential GDP increase of about 27-29 % for the EU average, i.e. a gain of EUR 6 800 per capita. At the European level, the higher women's activity rate accounts for 41 % of the total increase of GDP, while reduction in part-time employment accounts for 28 %, and equal productivity for 31 %. In addition, the author also highlights the 'multiplier effect' of increasing employment for some types of jobs, for instance in the elderly and childcare sector: they directly create jobs that often target women, and these jobs also free women from unpaid care responsibilities, enabling them to increase their labour supply.

In the more recent projection proposed by Aguirre et al. (2012), estimates are slightly smaller than in Löfström's research. The authors show that increasing women's employment rates would have a gross positive impact on GDP for

selected European countries, including when the productivity drag, included to account for diminishing return to labour, and a plausible proportion of women working part-time, are taken into account. According to these projections, the net impact on GDP would vary from 2 % (Sweden) to 11 % (Italy).

Klasen and Lamanna (2009) test the impact of inequality in education and employment for the period 1960-2000 on OECD, East Asia and South Asia countries. Their results suggest that it is not easy to separate the education gap and the employment gap and to test which one is more important, since results depend on the sample, selected time period, and variables used.

More recently, Mitra et al. (2015) attempted to address and solve some of the problems highlighted by Klasen and Lamanna (2009) by investigating the impact of gender equality on growth using a sample of 101 countries (including EU countries) for the period 1990-2000. To include several aspects of gender equality in a single model, without incurring multicollinearity, they use exploratory factor analysis (EFA) on five measures of gender equality, which results in two non-collinear factors: **equality of opportunity** (inverse fertility rate, secondary enrolment gap, and partial literacy rate gap) and **equality of outcomes** (percentage of women in parliament and gender gap in labour force participation). They find that a standard deviation improvement in equality of opportunity increases growth by 1.30 percentage points, and a standard deviation improvement in equality of outcomes increases growth by 1.19 percentage points.

Cuberes and Teignier (2016) examine the quantitative effects of gender gaps in entrepreneurship and labour force participation on aggregate productivity and income per capita. They estimate that:

- If all women were excluded from entrepreneurship (but not from self-employment), the income per capita loss would be 7.1 % in the short run and 8.6 % in the long run.
- When all women are also excluded from self-employment, the negative effect would be 10.1 % to 11 % (respectively, in the short and long run).
- When all women are excluded from the labour market, income per capita decreases by 46.8 % to 50 %.
- The average income loss due to gender gaps in OECD countries is 14.1 % to 15.4 % (short/long run). The income loss due to the gaps in entrepreneurship and self-employment is about 5 % to 5.7 %. Among the OECD countries, Italy is the one with the largest average loss (21.2 %).

Loko and Diouf (2009) include women's labour participation in a paper that investigates the determinants of productivity growth (considered to be the main driver of long-term per capita growth). The dataset includes 62 countries (including EU countries) over the period 1970-2005. The results show that the growth in the share of women in the labour force has a positive and significant effect on productivity growth (3.4 % growth in total factor productivity).

Some scholars have focused on the relation between fertility and employment. Economic models of fertility behaviour developed in the 1970s predict that an increase in women's schooling levels and wage rates leads to an increase in their labour supply and to a reduction in fertility. However, more recent evidence shows that as early as the mid 1980s, the sign of the cross-country correlation between women's labour market participation and fertility changed from negative to positive and became more volatile (Del Boca et al. 2005). In countries where it is relatively easy for women to work and have children, women's employment and fertility both tend to be higher (Daly 2007, Smith and Bettio 2008).

There are also some studies that try to assess how different public policies can affect women's labour market participation:

- A recent report (ITUC, 2016) discusses the number of new jobs that could be generated by increased investment in the care industry in four EU countries. The authors find that if 2 % of GDP was invested in the care industry this would mean nearly 2 million extra jobs in Germany, 1.5 million in the UK, 1 million in Italy, 600 000 in Australia and nearly 120 000 in Denmark. As a consequence the employment rate of women would increase by 3.3 to 5.1 percentage points (and by 1.4 to 2.4 percentage points for men). However, the overall effect on the economy is not analysed in this study, which discusses the additional jobs that would need to be created in order to meet increased demand for caring services generated by increased public investment.
- A study by Cipollone et al. (2013) analyses historical trends to assess the role of social policy (i.e. policy related to childcare and elderly care) and institutional factors (changes in labour flexibility and security) in labour market participation. The authors find that labour market reforms and changes in social policies predict almost 25 % of the actual increase in labour force participation for young women, and more than 30 % for highly educated women. However, the effects of labour market reforms on the participation of low-skilled women in the labour force are surprisingly small. The effects of such policies on men are not analysed in this study.



Finally, gender-based violence (GBV) against women is estimated to cost EUR 225.8 billion in a recent study covering all EU Member States (EIGE, 2014).

It is worth noting in this context, that, although the labour devoted to unpaid work accounts for between one third and half of GDP (Miranda, 2011), unpaid work has received less attention in economic studies than paid work. What's more, unpaid work is not accounted for in the traditional measures of well-being, such as GDP per capita (Miranda, 2011). In all OECD countries, women do more unpaid work than men, although to some degree this is balanced by the fact that at an aggregated level they do less market work. While unpaid work — and especially the gender division of unpaid work — is to some extent related to a country's development level, country cross-sectional data suggest that demographic factors and public policies tend to exercise a much larger impact (OECD, 2009; OECD, 2011).

Conclusions

Most available EU studies that assess the economic benefits of gender equality estimate the effect of increasing women's participation in the labour market using either a regression analysis approach or a 'basic assessment' approach. They generally focus on the macroeconomic impact of increasing gender equality in labour market participation and find that reducing gender inequalities would produce a positive effect in terms of GDP per capita growth.

Some EU-level studies examine the effect of increasing gender equality in leadership positions. These studies adopt a microeconomic perspective by evaluating the impact of equality on a company's performance. These studies also show that there would be a positive effect for firms by having more women on boards and in top positions.

Key recommendations can be derived from these studies. Research in this field in fact highlights how in rapidly ageing economies, like the European countries, higher women's labour market participation can boost growth by mitigating the impact of a shrinking ageing workforce. Furthermore, higher women's employment generates additional public revenues for the state and contributions for social security systems, which are under increasing fiscal pressure due to population ageing.

Bibliography

Aguirre D. A., Hoteit, L., Rupp, C., Sabbagh, K. (2012), *Empowering the Third Billion. Women and the world of work in 2012*.

Carter, D. A., Simkins, B. J. and Simpson, G. W. (2003), 'Corporate governance, board diversity, and firm value', *The Financial Review*, Vol. 38, pp. 33-53.

Catalyst (2007), *The Bottom Line: Corporate Performance and Women's Representation on Boards*.

Cipollone, A., Patacchini, E. and Vallanti, G. (2013), *Women Labor Market Performance in Europe: Novel Evidence on Trends and Shaping Factors* (No 13107), Dipartimento di Economia e Finanza, LUISS Guido Carli.

Cuberes, D. and Teignier, M. (2016), 'Aggregate Effects of Gender Gaps in the Labor Market: A Quantitative Estimate', *Journal of Human Capital*, Vol. 10, No 1, pp. 1-32.

Daly, K. (2007), *Gender Inequality, Growth and Global Ageing*, Global Economics Paper, 154 (04/2007).

Del Boca, D., Aaberge, R., Colombino, U., Ermisch, J., Francesconi, M., Pasqua, S. and Strom, S. (2005), 'Labour Market Participation of Women and Fertility: The Effect of Social Policies', in Boeri, T., Del Boca, D. and Pissarides, C. (eds.), *European Women at Work: An Economic Perspective*, Oxford University Press, Oxford.

European Institute for Gender Equality (EIGE) (2014), *Estimating the costs of gender-based violence in the European Union*, report available at <http://eige.europa.eu/rdc/eige-publications/estimating-costs-gender-based-violence-european-union-report>

Eurofound (2016) Gender Employment gap: challenges and solutions, available at http://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef1638en_1.pdf

Gornick, J., England, P., and Shafer, E. F. (2012), 'Women's employment, education, and the gender gap in 17 countries', *Monthly Lab. Rev.*, Vol. 135, No 3.

Klasen S., and Lamanna, F. (2009), 'The Impact of Gender Inequality in Education and Employment on Economic Growth: New Evidence for a Panel of Countries', *Feminist Economics*, Vol. 15, No 3, pp. 91-132.

Knowles, S., Lorgelly, P. K. and Owen, P. D. (2002), 'Are Educational Gender Gaps a Brake on Economic Development? Some Cross-Country Empirical Evidence', *Oxford Economic Papers*, Vol. 54, No 1, pp. 118-49.

Isidro, H. and Sobral, M. (2013), 'The effects of women on corporate boards on firm value, financial performance, and

ethical and social compliance', *Journal of Business Ethics*, Vol. 132, No 1, pp. 1-19.

International Trade Union Confederation (2016), *Investing in the Care Economy: A gender analysis of employment stimulus in seven OECD countries*.

Lagerlöf, N. P. (2003), 'Gender equality and long-run growth', *Journal of Economic Growth*, Vol. 8, No 4, pp. 403-426.

Löfström, Å. (2009), *Gender equality, economic growth and employment*.

Loko, B. and Diouf, M. A. (2009), 'Revisiting the Determinants of Productivity Growth: What's New?', IMF Working Paper WP/09/225.

McKinsey & Co (2007), *Women Matter: Gender Diversity: A Corporate Performance Driver*.

Miranda, V. (2011), 'Cooking, Caring and Volunteering: Unpaid Work Around the World', OECD Social, Employment and Migration Working Papers No 116, OECD Publishing.

Mitra, A., Bang, J. T. and Biswas, A. (2015), 'Gender Equality and Economic Growth: Is it Equality of Opportunity or Equality of Outcomes?', *Feminist Economics*, Vol. 21, No 1, pp. 110-135.

OECD (2009), *Society at a Glance*, Organisation for Economic Cooperation and Development, Paris.

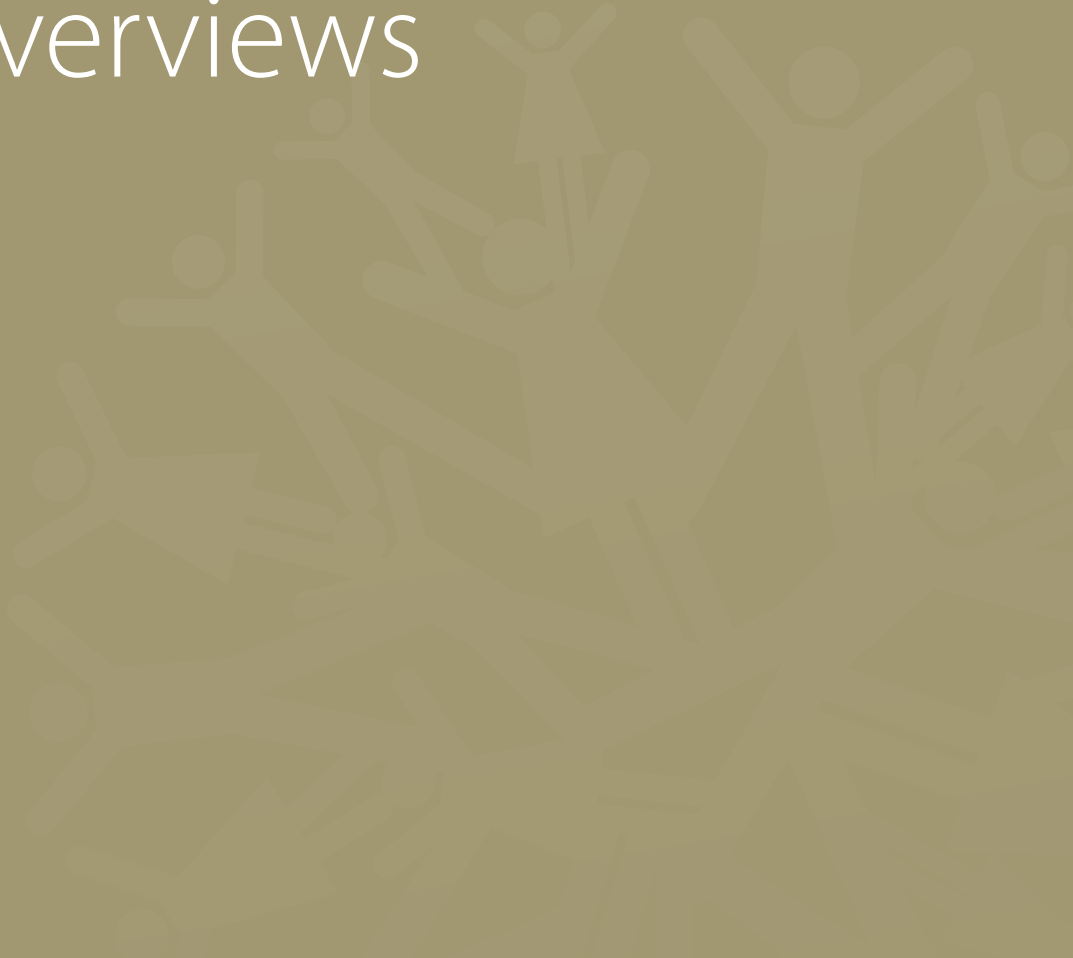
OECD (2011), *Doing Better for Families*, Organisation for Economic Cooperation and Development, Paris.

Schober, T. and Winter-Ebmer, R. (2009), *Gender Wage Inequality and Economic Growth: Is There Really a Puzzle?*, IZA Discussion Paper No 4323.

Smith, M. and Bettio, F. (2008), *Analysis Note: The Economic Case for Gender Equality*, GGE — European Commission's Network of Experts on Employment and Gender Equality Issues — Fondazione Giacomo Brodolini, European Commission — Directorate-General for Employment, Social Affairs and Equal Opportunities.



Member States overviews





Belgium

This section provides an overview of available national evidence of the economic outcomes of gender equality in the areas of labour market participation, pay gap, and violence against women.

In Belgium there is one macroeconomic study that aims to assess the impact of the availability of childcare on the employment rate of women (Vandelannoote, 2013). In addition, there are a few descriptive studies from the Institute for the Equality of Women and Men (IEWM) that present differences in terms of wage gaps, participation in the labour market and educational attainment between women and men. However, these publications do not provide estimates on the economic impacts of those differences. There is one econometric study looking at gender wage gaps (Jepsen 2001), but it does not estimate what the potential impacts of wage gaps for the economy are.

Another Belgian study is an annual report on the gender pay gap published since 2007 by the Institute for the Equality of Women and Men in collaboration with the federal administration in charge of statistics and the Federal Planning Bureau (IEWM and FPS Employment 2015). In addition, the Belgian Gender and Income Analysis (IEWM, 2011) provides an analysis at individual level of comparative income and poverty by gender. Both publications present quantitative indicators relating to the gender pay gap in order to analyse the breakdown of income inequalities between women and men. In addition, the second study also analyses the poverty risk.

It must be noted that given the federal structure of the country and the decentralisation of numerous services, policies and funding, some of these studies focus on specific elements of gender equality in Flanders, Wallonia or Brussels.

Summary table of quantitative studies on economic benefits of gender equality

Area of gender wequality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
Labour market participation	Employment Part-time employment	If availability of childcare was increased, employment rates of women could increase by 7.6 percentage points in Flanders (Vandelannoote, 2013).	Calculations based on simplifying assumptions (without using a macroeconomic model) Data were extracted in 2006 and 2007 from the annual household survey organised by the General Direction for Statistical and Economical Information
Gender pay gap	Gender pay gap State revenue	There is one micro-econometric study that tries to identify different causes of gender wage gaps (IEWM, 2011). This study suggests that significant gender pay gaps may impact on women's decision to participate in the labour market (IEWM, 2011). Women are three times more at risk of being financially dependent than men (IEWM, 2011).	Mixed methodology including micro-econometric analysis, descriptive statistics and qualitative assessment <i>Data sources:</i> Annual household survey organised by the General Direction for Statistical and Economical Information.
Violence against women	Cost to the economy	The costs of domestic violence to the Belgium economy was extrapolated to be about EUR 439 million in 2006 (Begon, 2013).	Cost analysis <i>Data sources:</i> Variety of sources not discussed in detail in the paper.

Overview of research methods used

There is one study in Belgium that focuses on macroeconomic modelling of the economic impacts of gender equality (Vandelannoote, 2013). It tries to estimate how price and

availability of childcare affects the labour supply of women with children. To do so, it uses an economic labour supply model ⁽⁶⁾ that allows for heterogeneity in prices and distinguishes between households with and without access to formal childcare.

⁽⁶⁾ The model is described in more detail in Van Soest, 1995.



There are also some econometric studies focusing on wage gap analysis. The Blinder-Oaxaca decomposition method ⁽⁷⁾ considers parameters which have an impact on income and tries to identify those with a discrimination effect on income disparities. For instance, it analyses whether women with the same characteristics as men in terms of seniority, age, professional sector, professional role, and level of education, earn less than men (IEWM and FPS Employment, 2015). This method therefore examines what could explain the differences in wages instead of the economic consequences resulting from them.

The IEWM (2011) carried out an analysis of time inequality between women and men in Belgium based on indicators of gender inequalities. Those indicators provide information on the individual risk of poverty or social exclusion. Data were extracted in 2006 and 2007 from the annual household survey organised by the General Direction for Statistical and Economical Information ⁽⁸⁾, the EU SILC ⁽⁹⁾ instrument. However, the study focuses mainly on explaining income disparities and proposing indicators for monitoring purposes.

References to the Gini index are also available; however, this index, which measures inequalities in income distribution, includes more characteristics such as origin, income type, geographical region and gender. The breakdown of the Gini coefficient by gender is presented in the IEWM (2011) and states that 'inequalities between women's and men's incomes are responsible for more than half of the inequality observed within the total Belgian population in 2006'. The remaining studies that are available are descriptive and do not address economic consequences of gender inequality in Belgium.

How does gender equality affect economic outcomes?

In Belgium, the gender pay gap was 9.9 % in 2014, meaning that the gross hourly earnings of men were 9.9 % higher than the earnings of women (Eurostat data on the unadjusted gender pay gap). When the wage gap between women and men is broken down using the Blinder-Oaxaca methodology, the differences relating to the observed variables (such as differences in educational attainment) explain 43 % of the income disparity. The 'unexplained' part still accounts for more than a half of the income gap observed, which could suggest outright discrimination against women (IEWM, 2011). The observation reveals significant wage

gaps to the detriment of women and which might impact on their motivation to join the labour market. In addition, the more children there are in a household, the greater the income inequalities between the parents (IEWM, 2011).

In their paper, Maron and Meulders (2009) observed that the employment rates of women in Belgium with at least one child were 2 percentage points higher than those of women without children. However, this masks an important degree of heterogeneity, as women with a higher number of children have a much lower employment rate. According to Eurostat data, in 2014 the employment rate was only 60.1 % for women aged 15 to 64 with three children compared to 72.3 % for women with one child. Overall, the impact of having a child under three has no significant effect on the probability of not working or on part-time jobs.

Even though 41.5 % of Belgium women worked part-time in 2015 (Eurostat), a study found that 14 % of Belgian women in part-time work are in this situation because they could not find full-time employment (IEWM and FPS Employment 2015). Furthermore, in its distribution of women and men by part-time activity status, the IEWM (2011) reports that more women than men are part-time workers. The distribution between deciles of individuals according to their activity status reveals women being found in the first five deciles and men in the last five. However, the authors' analysis is that the decision to work part-time is involuntary and is more due to the difficulty of combining work and parenthood.

While these studies explore the causes of gender and employment pay gaps, they do not analyse their impacts on the Belgium economy. There is no other national research that indicates what impacts gender and employment pay gaps have on economic performance.

Key macroeconomic impacts of gender equality

Vandelannoote (2013) shows a relatively minor negative effect of childcare costs on both labour participation and hours-of-work decisions. This indicates that Flemish mothers with young children are hardly sensitive to price changes in childcare.

However, simulations show that the low availability (rather than price) of formal childcare slots appears to be a major obstacle for women with small children in terms of increasing labour supply. When removing rationing in the subsidised public childcare sector, the employment rate among women in Belgium with small children could increase by 7.6 percentage points. Moreover, the removal of rationing could have sizeable, positive budgetary effects for the

⁽⁷⁾ By Blinder (1973, *Journal of Human Resources*, pp. 36-45) and Oaxaca (1973, *International Economic Review*, pp. 693--709).

⁽⁸⁾ See Eurostat website, available at [http://ec.europa.eu/eurostat/statistics-explained/index.php/EU_statistics_on_income_and_living_conditions_\(EU-SILC\)_methodology](http://ec.europa.eu/eurostat/statistics-explained/index.php/EU_statistics_on_income_and_living_conditions_(EU-SILC)_methodology) [accessed 29 February 2016].

⁽⁹⁾ Statistics on Income and Living Conditions.

government: the additional cost of increasing subsidised formal childcare would lead to additional government revenue in the form of additional social contributions and tax receipts, with revenues mostly exceeding additional costs.

The study carried out by the IEWM (2011) analysed the risk of individual poverty or financial dependence for women in Belgium and its potential consequences for public budgets. Over a third of women (36 %) compared to over a tenth of men (11 %) have an individual income below 60 % of the individual median income. Women are three times more at risk than men of being financially dependent. However, this ratio could increase to 46 % without state intervention.

Besides the impact of women's increased risk of poverty, a less sizeable but still significant socioeconomic cost can result from violence against women. The costs of domestic violence to the Belgium economy were extrapolated to be about EUR 439.45 million ⁽¹⁰⁾ in 2006, broken down as follows (Begon, 2013):

- Healthcare: EUR 81.47 million;
- Justice and police: EUR 53.58 million;
- Social protection: EUR 16.3 million;
- Economic costs: EUR 288.1 million.

The available research did not discuss in detail how outcomes of gender inequality affect sustainability of labour market outcomes and public budgets. Similarly, it did not discuss if outcomes of gender inequality disproportionately affect certain vulnerable groups of population, such as ethnic minorities.

Conclusions

In Belgium, a series of public and private initiatives with a legislative and non-legislative focus have been implemented to foster sustainable access of women to the labour market ⁽¹¹⁾. The constitution was amended in 2002, affirming the principle of gender equality, and in 2011 a new law on quotas for company boards was passed, requiring that one sex represent one third of company board members.

However, according to available research (Vandelannoote, 2013), childcare availability still seems to limit participation

of women in the labour market. If availability of childcare was increased, employment rates of women could increase by 7.6 percentage points in Flanders.

In addition, the Institute for the Equality of Women and Men clearly shows that the wage gap is linked to discrimination and labour market structure, and provides recommendations to the government and private enterprises. The IEWM and FPS Employment (2015) call for the implementation of the 2012 law on reducing the gender pay gap. According to this law, differences in pay and labour costs between women and men should be outlined in companies' annual audit ⁽¹²⁾.

Bibliography

Begon, R. (2013), 'Le coût de la violence conjugale en Europe', Collectif contre les violences familiales et l'exclusion — CVFE.

European Commission — DG Justice (2012), *The current situation of gender equality in Belgium – Country Profile*.

IEWM (2010), 'How to close the gender pay gap? Strategies and good practices of States and social partners in Europe', Belgium Presidency.

IEWM (2011), 'Gender and Income Analysis and development of indicators', Belgian Gender and Income Analysis — BGIA.

IEWM and FPS Employment (2015), *L'écart salarial entre les femmes et les hommes en Belgique. Rapport 2015*.

Jepsen, M. (2001), 'Évaluation des différentiels salariaux en Belgique: hommes – femmes et temps partiel – temps plein', *Reflets et perspectives de la vie économique*, 2001/1 (Tome XL), pp. 51-63.

Maron, L. and Meulders, D. (2008), 'Les effets de la parentalité sur l'emploi en Europe', *Brussels Economic Review/Cahiers Economiques de Bruxelles*, Vol. 51, No 2/3, Summer–Autumn.

Vandelannoote, D., Vanleenhove, P., Decoster, A., Ghysels, J. and Verbist, G. (2013), *Maternal employment: The impact of triple rationing in childcare in Flanders*.

Van Soest, A. (1995), 'Structural models of family labor supply: A discrete choice approach', *The Journal of Human Resources*, Vol. 30, No 1, pp. 63-88.

⁽¹⁰⁾ CVFE available at <http://www.cvfe.be/sites/default/files/doc/ep2013-8-rbegon-coutvceneurope-synth-verdana.pdf> [accessed 29 February 2016].

⁽¹¹⁾ European Commission — DG Justice (2012), *The current situation of gender equality in Belgium — Country Profile*.

⁽¹²⁾ See European Commission website, available at http://ec.europa.eu/justice/gender-equality/gender-pay-gap/national-action/law/index_en.htm [accessed 29 February 2016].



Bulgaria



This section provides an overview of available national evidence of the economic outcomes of gender equality in the area of labour market participation. There is almost no research on the economic effects of gender equality in Bulgaria, which is otherwise perceived by the government as a key element for sustainable, smart and inclusive economic growth (Ministry of Labour and Social Policy, 2013). The current research identified one cost–benefit analysis from 2012 of potential employer policies and measures to reconcile work and family life. Rigorous macroeconomic models and analyses of the economic impacts of gender equality are not available in Bulgaria at present.

The abovementioned cost–benefit analysis is a joint undertaking of the Confederation of Independent Trade Unions in Bulgaria (CITUB) and the Friedrich Ebert Foundation in the capital Sofia.

Qualitative research on gender equality or its economic benefits is also scarce in Bulgaria. One recent study explores gender equality in Bulgaria in economic decision-making (Centre for Economic Development, 2015), and there is also a 2010 survey undertaken by the Ministry of Labour and Social Policy and the Commission for Protection against Discrimination that partially covers this issue.

Summary table of quantitative studies on economic benefits of gender equality

Area of gender equality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
Labour market participation	Employer cost and income	<p>Across a sample of 28 enterprises, the impacts of employer measures to reconcile work and family life are:</p> <ul style="list-style-type: none"> ■ The total amount of benefits in the form of opportunity costs and forgone profits/losses is BGN 19 535 (EUR 9 988) ⁽¹¹⁾ (if consultancy services are used to recruit a new employee) and BGN 18 939 (EUR 9 683) (if this is done in-house by the employer). ■ The total amount of costs depends on the measure chosen and ranges from BGN 8 007 (EUR 4 093) for extended family leave and BGN 4 020 (EUR 2 055) for modifying the working hour arrangements of an employee to a 4-hour working day, to BGN 114 (EUR 58) for monthly allowances for social services that might be used by the employee. <p>Thus benefits of introducing measures to reconcile work and family life outweigh the costs. However, since the study was performed on a sample of 28 enterprises, there is no indication of what savings such policies could generate at national level.</p>	<p>Calculations based on simplifying assumptions (without using a statistical analysis)</p> <p>Data sources: primary data collected from 28 sampled employers on various costs and benefits associated with introducing measures to reconcile work and family life</p>

Overview of research methods used

The method used by the joint research of CITUB and the Friedrich Ebert Foundation in Bulgaria is a cost–benefit analysis. The analysis is based on data provided by 14 federations — members of the CITUB — each of which is represented by two enterprises in the study. For this research:

- The benefits of the policies and measures to reconcile work and family life taken by employers are assessed on the basis of the cost of turnover, i.e. the amount of opportunity costs and losses employers might incur if

an employee leaves due to family reasons, upon the employer's refusal to put in place measures to reconcile work and family life and instead deciding to hire a new employee. Therefore, these benefits are expressed via:

- Opportunity costs — which include the cost of recruitment to fill a vacancy and the cost of introducing an employee to a new workplace and providing induction training;
- Forgone profits or losses — which comprise the amount of any unmanufactured production during the time when a job remains vacant due to the leave of an employee for family reasons, the reduced labour productivity of any new hire during the

⁽¹³⁾ European Central Bank (ECB) exchange rate as of 3 March 2016 (<https://sdw.ecb.europa.eu/curConverter.do>).



initial adaptation period, and the reduced operating (overhead) costs associated with the introduction of non-standard forms of work organisation, such as homeworking and teleworking.

- The direct costs of the policies and measures to reconcile work and family life taken by employers are strongly influenced by the nature and specificities of these policies and measures. In general, direct costs were measured for the following two main types of policies:
 - Organisational policies and measures, for example reconciliation of professions and occupations in view of redistributing the workload of employees benefiting from extended family leave and/or working on a reduced or part-time basis, transformation of standard jobs into part-time working, introducing flexitime allowing individual choice of duration, start and end of working hours, etc.
 - Investment policies and measures, such as financial assistance to employees in the form of a monthly allowance for childcare or care for sick or dependent family members or investments in social infrastructure (nurseries, kindergartens) at the employer's premises, or elsewhere in partnership with other companies.

Apart from this study, there are two studies that deal with economic consequences of gender equality more qualitatively — either through a survey (Ministry of Labour and Social Policy and Commission for Protection against Discrimination, 2010) or by qualitative discussions illustrated by descriptive statistics (Centre for Economic Development, 2015).

How does gender equality affect economic outcomes?

The introduction of employer policies and measures to reconcile work and family life is perceived as an area of gender equality which generates positive economic outcomes in Bulgaria. It is widely known that the participation rate of women in the national labour force is lower for women of child-bearing age. According to 2014 data by the National Statistical Institute (NSI), there were 669 200 women (68.3 %) aged 25-34 years employed in Bulgaria, in comparison to 850 900 women (79 %) in the next age group (35-44 years). However, practices aimed at ensuring a work-life balance for employees are not commonplace among employers in Bulgaria. For example, women often lack the option of choosing part-time or more flexible working arrangements when this is necessary due to family reasons.

The cost-benefit analysis by CITUB and the Friedrich Ebert Foundation in Bulgaria aims to assess the economic effects of introducing employer policies and measures to reconcile work and family life on a sample of 28 enterprises. Their analysis shows that:

- The benefits of employer policies and measures to reconcile work and family life are higher among enterprises in the real economy (i.e. production of goods and services). This is primarily due to losses associated with the amount of time that it takes to replace an employee who left due to family reasons and the lower productivity/efficiency of a new hire during the adaptation period. For example, data provided by one of the companies show that the time necessary to fill a vacancy for a highly qualified employee was 63 days, and for a medium-qualified employee 39 days — time during which the firm reported incurring productivity losses or the loss of professional contacts. These costs are even higher when taking into account the 22 working days it took new hires at the firm to adapt to the workplace. However, there were enterprises where this time was much shorter — for example, the time necessary to fill a vacancy in one enterprise was 3 to 5 days (though the adaptation period for a new hire remained the same).
- Moreover, employers from the public sector also reported very high losses resulting from replacing employees who left because of absence of policies and measures to reconcile family life and work: 4 months to fill a vacancy for a highly qualified employee, followed by an adaptation period of up to 12 months.
- The productivity/efficiency of the new hire during the adaptation period was estimated to be 25 % lower than that of an employee who left the workplace due to family reasons.

This evidence points to significant losses for employers in Bulgaria related to the cost of hiring, integrating and investing in new employees, which the authors argue can be decreased through the introduction of measures to reconcile work and family life. Considering that the implementation of such measures also comes at a certain cost for employers, the study shows that organisational policies and measures, such as functional flexibility, part-time working and extended family leave are more cost-effective than investment practices. Among investment policies, financial assistance to employees to pay for social services is reported to be the most cost-effective measure, while investments in social infrastructure make sense for larger employers only, especially if such initiatives can be additionally supported through state or EU funding.

Overall (across all of the 28 sampled enterprises), the impacts of employer policies and measures to reconcile work and family life are calculated as follows in the study:

- The total amount of benefits in the form of opportunity costs and forgone profits/losses is BGN 19 535 (EUR 9 988) ⁽¹⁴⁾ (if consultancy services are used to recruit a new employee) and BGN 18 939 (EUR 9 683) (if this is done in-house by the employer).
- The total amount of costs associated with the introduction of policies and measures to reconcile work and family life by employers depends on the type of organisational/investment measure chosen and ranges from BGN 8 007 (EUR 4 093) for extended family leave and BGN 4 020 (EUR 2 055) for modifying the working hour arrangements of an employee to a 4-hour working day, to BGN 114 (EUR 58) for monthly allowances for social services that might be used by the employee.

This means that the costs associated with the introduction of policies and measures to reconcile work and family life by employers are considerably lower than the costs incurred by them for the recruitment of a new employee. However, given that the study was performed only on a sample of 28 enterprises, there is no indication of what amount of savings such policies could generate at national level.

Apart from reconciliation of family life and work, there is some research that describes gender gaps in economic leadership positions in Bulgaria. A study from the Centre for Economic Development (2015) states that during the period October 2010-January 2012, the number of women representatives in the governing bodies of companies listed on the Bulgarian Stock Exchange (BSE) was 4 % higher than in previous years. Despite this positive development, the research reports that only 13 % of women in Bulgaria were leading/chairing boards of companies, while only 16 % of the BSE-listed companies had women on their boards. Further qualitative information from a 2010 survey undertaken by the Ministry of Labour and Social Policy and the Commission for Protection against Discrimination suggests that raising a child in a Bulgarian family potentially leads to denial of promotion for women.

Key macroeconomic impacts of gender equality

Despite the fact that the Bulgarian government perceives gender equality as a key element for sustainable, smart and inclusive economic growth (Ministry of Labour and Social

Policy, 2013), there is no research available that attempts to quantify economic impacts of increased gender equality at macroeconomic level. The only study that could potentially imply positive macroeconomic outcomes focuses on the introduction of measures to reconcile work and family life (CITUB and Friedrich Ebert Foundation, 2012). While it does identify some positive economic impacts resulting from the introduction of such measures, it focuses only on a small sample of enterprises and thus its findings are difficult to extrapolate to overall economic performance.

Conclusions

The limited available research in Bulgaria suggests that putting in place employer policies and measures to reconcile work and family life could have a positive impact on company performance and thus perhaps also on Bulgaria's macroeconomic performance. According to this research (CITUB and Friedrich Ebert Foundation, 2012), such policies and measures have monetary benefits, as well as non-monetary ones — such as better motivation and performance at work, and increased productivity — which in the long term could generate further monetary effects.

Bibliography

Centre for Economic Development (2015), *Gender equality in economic decision-making*, available at: http://www.mlsp.government.bg/ckfinder/userfiles/files/admob/BOOK_CED_Print.pdf

Confederation of Independent Trade Unions in Bulgaria (CITUB) and Friedrich Ebert Foundation (2012), *Issues and policies to balance family and professional life: Cost-benefit analysis of the economic effects of introducing measures to reconcile professional and family obligations*, available at: <http://library.fes.de/pdf-files/bueros/sofia/09689.pdf>

Ministry of Labour and Social Policy and Commission for Protection against Discrimination (2010), *Analysis of results of a national representative survey on equality and discrimination*, available at: http://kzd-nondiscrimination.com/progress2009_2010/images/stories/products/doklad_publicacia_short_Stoilova_%5B1%5D.doc

Ministry of Labour and Social Policy (2013), *Report on gender equality in Bulgaria for 2013*, available at: <http://www.mlsp.government.bg/ckfinder/userfiles/files/admob/Doclad2013.pdf>

National Statistical Institute (2014), *Employment and employment rate of the population aged 15 years and over in 2014*.

⁽¹⁴⁾ European Central Bank (ECB) exchange rate as of 3 March 2016 (<https://sdw.ecb.europa.eu/curConverter.do>).



Czech Republic

This factsheet provides an overview of available national evidence of the economic outcomes of gender equality in the areas of labour market participation, pay gap and violence against women. There are few studies in the Czech Republic that aim to rigorously assess the potential causes and economic impacts of gender inequality (Jurajda, 2003; Kaliskova and Munich, 2012; Pertold-Gebicka and Husek, 2015). There are two quantitative studies that try to estimate the economic impact of women's low labour market participation caused by their predominant role in childcare. In addition, there is one micro-econometric study that tries to determine the possible causes of gender wage gaps, but does not estimate what are the potential impacts of wage gaps for the economy.

There are also three additional studies which try to explore economic consequences of gender equality, either qualitatively or by simpler quantitative analysis (McKinsey, 2012; Mysikova, 2007; ProFem, 2012). Two of these studies focus on impacts of specific gender inequalities — one analyses economic impacts of violence against women and the other how choices of women in leadership positions affect company performance. The third study provides a broader theoretical discussion of economic impacts of gender inequality on the labour market and applies it to some aspects of tax and childcare policy.

Summary table of quantitative studies on economic benefits of gender equality

Area of gender equality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
Labour market participation	Earnings Employment Government budget	If women with children supported into employment: Increase in overall women's employment rate by 0.5 percentage points (Pertold-Gebicka and Husek, 2015). Additional earnings of between EUR 48 million and EUR 264 million a year for women supported into part-time employment in the former and full-time employment in the latter case (Pertold-Gebicka and Husek, 2015). Additional earnings for the state of between EUR 23 and EUR 190 million due to higher tax and lower spending on social and health contributions (Pertold-Gebicka and Husek, 2015; Kaliskova and Munich, 2012), which is higher than additional childcare costs, according to the authors.	Calculations based on simplifying assumptions (without using a macro-economic model) <i>Data sources:</i> EU Labour Force Survey (LFS) for employment and activity rates of women; Eurostat demography — national data for fertility rates; budget of the Ministry of Sports and Education for childcare costs
Gender pay gap	Gender pay gap	No evidence of macroeconomic impact; one study rigorously models microeconomic causes of gender pay gap (Jurajda, 2003)	Micro-econometric analysis <i>Data sources:</i> Information System on Average Earnings for Wages (national survey); EU LFS.
Violence against women	Cost to the economy	The costs of domestic violence to the Czech economy were about EUR 50 million in 2010 (ProFem, 2012).	Cost analysis <i>Data sources:</i> survey; cost data from multiple administrative public and private sources (see ProFem, 2012, for details).



Overview of research methods used

There is no study in the Czech Republic that focuses on rigorous macroeconomic modelling of the economic impacts of gender equality. The studies that produce estimates of macroeconomic impacts of gender equality typically rely on simple extrapolations of findings from microeconomic analysis or on simple calculations of costs per case of occurrence.

Only two of the six reviewed studies use rigorous micro-econometric analysis to assess causes and economic impacts of gender inequality (Jurajda, 2003; Pertold-Gebicka and Husek, 2015). They control for some of the potential biases in analysis by employing relatively sophisticated analytical techniques, such as two-stage models accounting for self-selection bias or weighting to account for survey coverage. However, these studies seem to control for relatively few factors that can influence gender equality, which can introduce bias in their results. The remaining studies typically use simple quantitative analysis mixed with qualitative research to assess economic benefits of gender equality.

Overall, all of the Czech studies produce relatively simple estimates of economic impacts of gender equality, focusing typically on one key impact and assuming that this impact will not affect other parts of the economy. For example, when assuming the impact of improved employment in certain groups of women, none of the studies considers how this will affect employment of other women and men, nor overall employment.

The data sources used include EU Labour Force Survey (LFS) for employment rates of women with and without children, a national employer survey called Information System on Average Earnings for Wages, Eurostat and other national sources of data.

The studies typically use employment rates, additional income earned by women and savings/additional income relative to the state budget to assess economic impacts of gender equality.

How does gender equality affect economic outcomes?

Increasing the participation of women in the labour market is perceived as one of the key ways in which increased gender equality can contribute to the national economy. The participation rate of women in the Czech economy is particularly low for those who are most likely to have young children — it was only 66.4 % for women aged 30 to 34 in 2014, which

was the lowest value among all EU countries according to Eurostat. It was also very low for women aged 25 to 29.

All the studies focusing on women's participation in the Czech labour market suggest that it is limited mainly by gaps in childcare provision and generous maternity and parental leave benefits (Kaliskova and Munich, 2012; Pertold-Gebicka and Husek, 2015). In 2013, about 14 % of women taking care of children aged 0 to 4 reported that they did not look for employment because childcare services were not available or affordable. About 6 % of mothers on parental leave reported that they wished to work but could not (Pertold-Gebicka and Husek, 2015, based on calculations from EU LFS microdata). Many of these women were university educated, so their absence was likely to be particularly costly (Ibid.).

Wages are perceived as another important factor likely to limit participation of Czech women in the labour market (Jurajda, 2003; Mysikova, 2007) in the Czech Republic, women earned 22.1 % less than men in 2014⁽¹⁵⁾ (based on Eurostat data), which should make employment less attractive for them according to economic theory. In addition, the lower wages of women are likely to limit participation of men in childcare responsibilities, because families lose more economic income when fathers leave work.

According to a study by Stepan Jurajda (2003), about a third of the gender pay gap is due to various forms of workplace segregation. According to the author, the remainder is likely to be related to childcare-related career breaks and employer discrimination against women on the labour market.

While this study explores the causes of the gender pay gap, it does not analyse its impact on the Czech economy. There is no other national research that indicates what impacts the gender pay gap has on economic performance.

In addition to the main factors limiting participation of women in the labour market, Czech national research indicates that improving gender equality could affect economic performance in the following ways:

- A higher share of women managers tends to improve business performance of companies (McKinsey, 2012). This may be because women often use different management strategies than men, with more focus placed on employee development and participatory decision-making.

⁽¹⁵⁾ See http://ec.europa.eu/justice/gender-equality/gender-pay-gap/situation-europe/index_en.htm

- Reducing prevalence of violence against women would lead to public savings, mainly in the health and justice sectors (ProFem, 2012).

Key macroeconomic impacts of gender equality

The study by Gebicka and Husek (2015) assessed the potential impact of supporting mothers who wish to work into employment. According to their estimates, in 2013 there were about 21 000 women on maternity or parental leave who wished to work. As many as 10 000 of them had a youngest child aged between two and four and thus their participation in the labour market could be facilitated by increased availability of childcare services. Bringing those mothers to the labour market would have increased the prime-age women's employment rate by 0.5 percentage points and the employment rate among 30 to 39-year-old women by 1 percentage point.

Gebicka and Husek determined the potential wages of these newly employed women with small children by estimating their distribution by the highest achieved qualifications and then using average wage levels corresponding to different levels of qualifications achieved.

The authors developed two scenarios to assess the impact of the increase in employment on the Czech economy:

1. Assuming that all the mothers of young children wishing to work would assume full-time employment, they would earn about EUR 264 million a year (Ibid.).
2. If only the wishing-to-work mothers of 2- to 4-year-old children were to start part-time employment for 20 hours a week, they would earn almost EUR 48 million a year (Ibid.).

This means that not giving these women an opportunity to work costs the state EUR 25.5 million a year in income tax and EUR 119 million in social security contributions in the first scenario (Ibid.). The respective costs in the second scenario are EUR 1.5 million and EUR 21.5 million (Ibid.).

A similar effect was found in another study that estimated the budgetary impacts of supporting mothers aged 27 to 33 into employment (Kaliskova and Munich, 2012). In this study, authors modelled a scenario in which the employment rate of women aged 27 to 33 was assumed to be the same as the employment rates of women aged 26 and 34. The authors claimed that this would generate about EUR 190 million for the Czech state budget through income tax and social and health insurance (Ibid.).

Besides the impact of increased employment rate of women, a less sizeable but still significant potential saving can result from reduction of violence against women (ProFem, 2012). The costs of domestic violence to the Czech economy were about EUR 50 million in 2010 (less than 0.1 % of GDP in that year according to Eurostat), out of which:

- EUR 1 million was associated with police actions;
- EUR 11 million was associated with court expenditures;
- EUR 7 million was associated with provision of social services;
- EUR 8 million was associated with unemployment support;
- EUR 20 million was associated with healthcare.

The available research did not discuss in detail how costs of gender inequality affect sustainability of labour market outcomes and public budgets. Similarly, it did not discuss if costs of gender inequality disproportionately affect certain vulnerable groups of population, such as ethnic minorities.

Conclusions

Increasing labour market participation of mothers with young children is perceived as one of the key channels through which gender equality could affect national macroeconomic performance. According to available research, supporting mothers into employment could be associated with additional earnings ranging from about EUR 48 to EUR 264 million a year (Pertold-Gebicka and Husek, 2015). This could increase contribution to the state budget in taxes, social and health insurance by an amount ranging from EUR 23 million to EUR 119 million.

These estimates depend on the assumption that newly employed mothers would not be employed at the expense of other women or men. Thus they may overestimate the overall contribution of improving gender equality to the Czech economy, since newly employed women may at least sometimes substitute others in their current jobs rather than assume new jobs.

The key recommendations for the future are to develop a more extensive network of childcare provision, support provision of flexible and part-time positions and perhaps amend legislation regarding maternity, paternity and parental leave. The first two recommendations are included in some key national policy documents, including the Strategy for Equality of Men and Women in the Czech Republic



for 2014-2020, the National Reform Programme for 2015 and the National Employment Strategy until 2020.

Bibliography

Jurajda, Š. (2003), 'Gender wage gap and segregation in enterprises and the public sector in late transition countries', *J. Comp. Econ.*, Vol. 31, pp. 199-222.

Kaliskova, K. and Munich, D. (2012), *Czech Women: Unused Potential of the Country*. CERGE-EI IDEA.

McKinsey (2012), *Employing the full potential of women in the Czech economy*.

Mysikova, M. (2007), *Women's labour market and influence of select policies*, IES Occas. Pap.

Pertold-Gebicka, B. and Husek, D. (2015), *Female Labor Force Participation and Childcare Policies*, IES Occasional Pap. 01/2015.

ProFem (2012), *Study on economic impacts of violence against women in the Czech Republic*.



Denmark



This factsheet provides an overview of available national evidence of the economic outcomes of gender equality in the areas of labour market participation, education, sharing of unpaid care work, pay gap, and violence against women.

This research has not identified any empirical studies in Denmark that directly assess the relationship between gender equality and economic output/growth. Instead,

much of the research in this field has focused on examining the gender wage gap (e.g. Albæk and Brink Thomsen, 2014; Larsen and Bøje Houlberg, 2013a; Larsen and Bøje Houlberg, 2013b) and exploring differences between women and men in terms of labour market participation and time use (e.g. Deding and Lausten, 2004; Deding et al., 2006; Deding and Filges, 2009; Holt et al., 2006; Lausten and Sjørup, 2003).

Summary table of quantitative studies on economic benefits of gender equality

Area of gender equality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
Time use	Labour market participation	<p>Women spend an average of 21 minutes more on primary needs and around 1 hour more on housework than men. By contrast, women spend almost 1 hour less at work and have approximately half an hour less leisure time per day than men. Notably, though, the time spent at work has fallen for men and increased for women since 1964, by 1.75 hours each (Lausten and Sjørup, 2003).</p> <p>Deding and Filges (2009) show that background factors (sector, education, occupation and family situation) have a much greater impact on women than men in terms of working hours.</p>	<p>Descriptive analysis, regression analysis</p> <p><i>Source:</i> Danish Time Use Survey; register-based data.</p>
Education	Educational attainment Labour market outcomes	<p>Holt et al. (2006) show that the choice of education, social heritage and the individual's own family situation are critical factors in explaining labour market gender segregation. The most significant statistical relationship can be seen between the occupation of the mother and choice of education by the daughter and the occupation of the father and choice of education by the son. There is a greater likelihood that both daughters and sons gain a management position if their mother has completed long-term higher education.</p>	<p>Regression analysis</p> <p><i>Source:</i> administrative and register-based data.</p>
Gender pay gap	Gender pay gap	<p>Larsen and Bøje Houlberg (2013a) analysed the extent to which sectoral segregation causes pay gaps, but did not discuss the impact of gender pay gaps on macroeconomic performance.</p> <p>Comparing additional salary of men and women resulting from educational achievement, Larsen and Bøje Houlberg (2013a) found that the difference between women and men is particularly prominent for medium-term higher education programmes — for this type of education, the average wage is 13 percentage points lower for women than for men.</p>	<p>Regression and decomposition analysis</p> <p><i>Source:</i> administrative and register-based data.</p>



Violence against women	Costs to the economy	Helweg-Larsen et al. (2010) estimated that violence against women cost Danish society about EUR 70 million in 2009, which amounted to about 0.03 % of Danish GDP that year, according to Eurostat data. This corresponded to annual costs of nearly EUR 40 per woman in the 16-64 years age group in the Danish population.	Multiplication of number of incidents by estimated costs <i>Source:</i> national surveys on prevalence of violence against women; register-based data from various sources; cost data from various sources (see Helweg-Larsen et al., 2010, for more detail).
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Overview of research methods used

Most of the studies reviewed have been based on administrative data and register-based analysis. The Danish Time Use Survey from 2001 has also been used in a study ⁽¹⁶⁾.

Regression analysis has been used in a few studies to identify influencing/explanatory factors for different economic outcomes. For example, OLS or linear regression was used in Larsen and Bøje Houlberg (2013b) to estimate the relative economic return in terms of average salaries arising from educational attainment. Similarly, in Holt et al. (2006), regression analysis was used to examine the main factors that contribute to gender differences in women's and men's choice of education, industry and occupation. Specifically, the study used multinomial logistic regression analyses. A person's highest educational attainment, a person's employment sector and a person's position in the labour market were used as dependent variables, while other factors such as gender, age and parental background were used as the explanatory variables. In Deding and Lausten (2004), a Tobit model is used to estimate the time used on market work and non-market work. Specifically, Amemiya's Generalised Least Squares (AGLS), a variant of the traditional GLS estimator, was applied.

The Danish studies examining the gender wage gap have primarily used decomposition analysis to explore wage differentials between women and men. For example, Albæk and Brink Thomsen (2014) investigate the gender wage gap over the wage distribution by quantile regression.

Specifically, the study decomposes the gender wage gap over the wage distribution by constructing counterfactual wage distributions from female coefficients and male distributions of characteristics. The data used is a linked employer–employee dataset encompassing more than 1 million employees. The standard Machado and Mata (2005) decomposition procedure is not feasible on such a large dataset and the study therefore presents and implements an alternative procedure that makes it possible to decompose wage distributions. The idea of the procedure is to replace the bootstrap sampling (i.e. sampling with replacement) in the Machado-Mata procedure with a sampling procedure that is suitable for large datasets. This sampling scheme is known as 'non-replacement subsampling' and is an alternative to the bootstrap (see Horowitz, 2001).

Larsen and Bøje Houlberg (2013a) also use regression and decomposition analysis. The analysis is carried out in two steps. First, a regression analysis, for women and men respectively, is used to determine the extent to which there is a relationship between the explanatory variables and the wages of women and men respectively. This is done by establishing a wage equation for both women and men. The wage equation uses the hourly rate as the dependent variable. The same explanatory variables are used in both equations. The gross wage differences between women and men are then decomposed into two parts: (i) differences explained by the fact that the two genders are differently distributed across the explanatory variables (the context of different distribution); (ii) differences explained by other factors (the residual).

Finally, Helweg-Larsen et al. (2010) estimated the cost of violence against women to Danish society by multiplying the number of incidents of violence (based on self-reported data in national surveys and register-based data from several sources) by their estimated costs in terms of health-care, the labour market, the judicial system and shelters. They calculated these costs in 2009 prices.

⁽¹⁶⁾ The Danish Time Use Survey provides information about women and men's time use in 2001. The survey includes 2 105 people aged 16 to 74 and representative of the Danish population. The survey consists of time diaries and a questionnaire which have been given to respondents. The questionnaire includes information about working hours, household work, incomes, family background, attachment to the labour market, job characteristics, and domain satisfactions. The respondents also completed time use diaries, noting the main and secondary activity information for each 10-minute interval of the actual day. The diary covers working hours, household work and leisure time.

How does gender equality affect economic outcomes?

The studies reviewed show that gender segregation is still present in the education system and the labour market in Denmark. Holt et al. (2006) show that the choice of education, social heritage and the individual's own family situation are critical factors in explaining this gender segregation. The most significant statistical relationship can be seen between the occupation of the mother and choice of education by the daughter and the occupation of the father and choice of education by the son. For both sexes, the study shows, through regression analysis, that parents with highly skilled work increase children's likelihood of a higher education. Moreover, the study shows that a parent's education and occupation affect children's educational choices, as well as their likelihood of obtaining a management position in the labour market. There is a greater likelihood that both daughters and sons gain a management position if their mother has completed long-term higher education. The study also shows that women and men who live in relationships without children have the greatest likelihood of achieving a high position in the labour market. The labour market outcomes for women and men in a relationship with children vary, with men not being affected to any great extent, while women are adversely affected. The study suggests that particular attention should be given to traditional expectations of the genders at home, in education and in the workplace in order to achieve greater equality.

Similar findings are presented in Deding and Filges (2009), who show that background factors (sector, education, occupation and family situation) have a much greater impact on women than men in terms of working hours. In fact, men are generally only weakly affected by background factors. However, unlike some other studies, the research found some evidence that men with children work slightly less than men without children. For women, the working time is particularly affected by having children.

The decomposition and regression analysis in Albæk and Brink Thomsen (2014) show that most of the gender pay gap in the upper part of the wage distribution in Denmark is related to segregation either in the form of composition or in the form of different returns for women and men. By contrast, differences in the constant terms (or 'discrimination') play a major role in the lower part of the wage distribution, where men earn slightly more than women. The constant terms play only a minor part in the upper part of the wage distribution, where men earn substantially more than women.

It is generally acknowledged that spending more time in additional education leads to higher pay. Larsen and Bøje

Houlberg (2013b) found that the yield of investment in education is greatest if you are employed in the private sector. The study also found that men generally get more out of investing in education than women. The gender difference is amplified by the fact that men are over-represented in the private sector, combined with a relatively large proportion of women with a higher education. As such, the study concludes that the segregated labour market, as well as the differing distributions of educational levels, are important contributors to the pay gap between women and men. The study does not, however, explore the impact of these issues on the overall national economy.

In terms of time use, the 2001 Danish Time Use Survey shows that Danish people, regardless of gender, spend on average 10.75 hours on sleep, eating and personal care, 4.75 hours at work, including education and transport to/from work, 3 hours on household work and 5.75 hours on leisure each day. Women and men are very similar in terms of time spent; however, there are some differences that are repeated regardless of age and background. For example, women spend an average of 21 minutes more on primary needs and around 1 hour more on housework than men. By contrast, women spend almost 1 hour less at work and have approximately half an hour less leisure time per day than men. Notably, the time spent at work has fallen for men and increased for women since 1964, by 1.75 hours each (Lausten and Sjørup, 2003).

Key macroeconomic impacts of gender equality

Some of the studies reviewed focus on macroeconomic impacts in relation to earnings. For example, Larsen and Bøje Houlberg (2013a) found that in Denmark the gross difference in pay between women and men overall was 13 % (or 17 % based on the hours worked). Such differences can to a considerable extent be explained by the fact that the labour market is segregated both horizontally and vertically. Nevertheless, if women and men were equally divided between the explanatory variables, there would still be a pay gap of around 4 to 7 %.

As noted above, the return from investment in education differs significantly for women and men. Larsen and Bøje Houlberg (2013a) found that the difference between women and men is particularly prominent for medium-term



higher education programmes ⁽¹⁷⁾: the additional salary resulting from achieved education is 13 percentage points lower for women than for men. This is particularly noticeable given the relatively high proportion of women with medium-term higher education. The difference is 4 to 7 percentage points for short- and long-term higher education ⁽¹⁸⁾ as well as for PhD and medical education, while it is less than 1 percentage point for vocational education.

One study also quantified the overall costs of violence against women to Danish society (Helweg-Larsen et al., 2010). The authors estimated that violence against women cost Danish society about EUR 70 million in 2009, which amounted to about 0.03 % of Danish GDP in that year according to Eurostat data. This corresponded to annual costs of nearly EUR 40 per woman in the 16-64 age group in the Danish population.

Conclusions

It has not been possible to identify any empirical research that directly estimates the relationship between gender equality and economic output and growth in Denmark. Empirical studies have primarily covered the relationship between gender quality and other economic outcomes such as earnings and labour market participation/time use. This may in part be explained by the availability of reliable and robust data within this area. Indeed, most of the studies are based on administrative data and register-based analysis.

The reviewed studies highlight the continued segregation of the Danish labour market, both horizontally and vertically. This segregation of the labour market can, in part at least, be explained by a number of background factors, such as the choice of education, social heritage and the individual's own family situation. The segregation of the labour market and education system also have an impact on the gender wage gap, but this does not fully explain the wage differences between women and men.

⁽¹⁷⁾ Medium-term higher education programmes take between 3 and 4.5 years. These programmes usually address a given profession and include periods of work placement. Medium-term higher education programmes cover professional bachelor programmes, for instance. Professional bachelor programmes entitle students to take certain relevant graduate and master's programmes.

⁽¹⁸⁾ A short-term higher education programme usually takes 2 years. Short-term higher education programmes include academy profession programmes that address various professions such as that of dental hygienist, computer scientist, pharmaconomist, commerce manager, laboratory technician and building technician. Short-term higher education programmes entitle students to take diploma programmes. Long-term higher education programmes include 3-year bachelor programmes at universities, graduate programmes and PhD programmes.

Bibliography

Albæk, K. and Brink Thomsen, L. (2014), *Decomposing wage distributions on a large data set — a quantile regression analysis of the gender wage gap*, The Danish National Centre for Social Research, Copenhagen, Working Paper 6:2014.

Deding, M. and Lausten, M. (2004), *Choosing between his time and her time? Market work and housework of Danish couples*, Working Paper 4:2004, Socialforskningsinstituttet/The Danish National Institute of Social Research.

Deding, M. et al. (2006), *Børnefamiliernes balance mellem familieog arbejdsliv*, Copenhagen 2006, Socialforskningsinstituttet 06:32.

Deding, M. and Filges, T. (2009), *Danske lønmodtageres arbejdstid en registeranalyse baseret på lønstatistikken*, Copenhagen 2009, SFI — Det Nationale Forskningscenter for Velfærd 09:03.

Helweg-Larsen, K. (2010), *The Cost of Violence: Economic and Personal Dimensions of Violence Against Women in Denmark*, Statens Institut for Folkesundhed, Syddansk Universitet.

Holt, H. et al. (2006), *Det kønsopdelte arbejdsmarked — en kvantitativ og kvalitativ belysning*, Copenhagen 2006, Socialforskningsinstituttet 06:02.

Larsen, M. and Bøje Houlberg, H. (2013a), *Lønforskelle mellem mænd og kvinder 2007-2011*, Copenhagen 2013, SFI — Det Nationale Forskningscenter for Velfærd 13:24.

Larsen, M. and Bøje Houlberg, H. (2013b), *Mere uddannelse, mere i løn?*, Copenhagen 2013, SFI — Det Nationale Forskningscenter for Velfærd 13:25.

Lausten, M. and Sjørup, K. (2003), *Hvad kvinder og mænd bruger tiden til — om tidsmæssig ligestilling i danske familier*, Copenhagen 2003, Socialforskningsinstituttet 03:08.



Germany



This factsheet provides an overview of available national evidence of the economic outcomes of gender equality in the areas of labour market participation, education and pay gap. There is a vast body of literature and research in Germany describing the status quo and possible approaches to increase gender equality. This literature also covers specific forms of gender (in)equality and discrimination such as the under-representation of women in company boards and management positions, the gender wage gap or the share of women who graduate in STEM subjects.

There is also a rich selection of empirical research explaining the social and cultural determinants constituting the root causes of observed gender inequalities and discrimination⁽¹⁹⁾. Over the last 10 years empirical research has turned to the economic consequences of gender inequalities. In

particular, the effects of inactivity and motherhood on income have been investigated in detail, given the persisting lack of incentives and institutional support for returning to the labour market after giving birth, and the fact that 56 % of women work part-time in Germany (Wanger, 2015). For other areas of inequality, robust empirical research about the economic effects is scarce.

The German Federal Ministry for Family Affairs, Senior Citizens, Women and Youth (BMFSFJ) is leading policy initiatives on gender equality. The ministry regularly reviews the education, labour market participation, career progression and salaries of women and men in Germany⁽²⁰⁾. Disaggregated data by gender for all German regions and districts is available as part of the ministry's equal rights atlas⁽²¹⁾.

Summary table of quantitative studies on economic benefits of gender equality

Area of gender equality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
Labour market participation and activation	Earnings Employment Tax revenue	Women represented 46 % of the whole labour force in 2013, yet they accounted only for 40 % of total working time (Brenke, 2015) Some studies investigate the potential amount of female labour that could be activated. Eichhorst, Marx and Tobsch (2010) investigated the potential of mothers with children up to the age of 16 with relevant qualifications to participate in the labour market if flexible working arrangements were provided by employers. They estimated that based on 2009 data, 1.56 million additional full-time equivalents of labour could have been mobilised, out of which three quarters would present a desirable qualification.	Descriptive statistics, multivariate regression analysis <i>Data:</i> German Socioeconomic Panel (SOEP).
Education	Education participation	While Germany has seen an increase in women graduates in STEM subjects, women are still under-represented in academic education and vocational courses, and are less likely to gain professorship positions in academic careers (Acatech 2014; Leszczensky et. al., 2013).	Descriptive statistics, various regression analysis <i>Data:</i> National Education Panel (NEPS).

⁽¹⁹⁾ As regards the labour market participation of women, a great deal of attention has been paid to specific reactivation and reintegration policies as well as the specific institutional setting as root causes (see, for example, Drasch, 2013).

⁽²⁰⁾ BMFSFJ (2013), *Bilanz Chancengleichheit. Chancengleichheit auf einem guten Weg. Fünfte Bilanz der Vereinbarung zwischen der Bundesregierung und den Spitzenverbänden der deutschen Wirtschaft zur Förderung der Chancengleichheit von Frauen und Männern in der Privatwirtschaft*. See also BMFSFJ (2005), *Gender-Datenreport. 1. Datenreport zur Gleichstellung von Frauen und Männern in der Bundesrepublik Deutschland*.

⁽²¹⁾ BMFSFJ (2013), *Atlas zur Gleichstellung von Frauen und Männern in Deutschland* (<https://www.bmfsfj.de/bmfsfj/service/publikationen/2-atlas-zur-gleichstellung-von-frauen-und-maennern-in-deutschland/82774?view=DEFAULT>)



Gender pay gap	Gender pay gap	<p>Beblo, Bender and Wolf (2009) find that wages of women who return to full-time work with the same employer are around 19 % lower than those of similar women colleagues 22 months before beginning maternal leave.</p> <p>Research identified a significant unexplained gender pay gap in management positions (Holst and Busch, 2009; Achatz et. al., 2005). Schmelder et. al. (2015), however, suggest that there is no general or permanent 'motherhood wage penalty' in Germany, but that career breaks exceeding the legally suggested duration lead to wage penalties. Leuze and Strauß (2009) find that 13-19 % of the gender wage gap among highly educated women and men is not explained by field of study, type of occupation nor career stage — and they thus attribute this to discrimination.</p>	<p>Various regression analyses (Boll and Leppin (2015) provide an overview)</p> <p><i>Data:</i> SOEP; German register data.</p>
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Overview of research methods used

The methods used to investigate the causes and effects of gender inequality are varied in the German context. Multivariate regression models are common, using firm data and socioeconomic panels, controlling for characteristics of firms, individual characteristics and qualifications. The range of methods used is illustrated in key studies highlighted below.

Lindstädt, Wolff and Fehre (2011) choose multivariate regression using panel data of publicly traded companies to investigate links between the financial performance of companies (value of stock, total shareholder return) and the proportion of women in company management and supervisory boards during the period 2002-2010. They control for company characteristics (size, sector, risk affinity of the company, governance structure) to differentiate results. Heteroscedasticity and multicollinearity were excluded by using White standard errors.

Eichhorst, Marx and Tobsch (2011) use the Socioeconomic Panel (SOEP) for 2009 and extrapolate conclusions to the overall German labour market from this sample. Boll and Leppin use SOEP data on 22 498 graduates (ISCED categories 5a and 6) between 1984 and 2010 and compare real wages with expected wages using Duncan and Hoffman's (1981) ORU earnings equation and a standard random effects model. SOEP includes details on family status, employment status, qualifications, self-assessment of over- and under-qualification and individual preferences as regards employment and working arrangements, fed through a yearly survey of over 12 000 German households.

The causes and effects of the observed gender wage gap in Germany have received considerable attention in the

research. A variety of methodological approaches and data limitations have produced mixed results. Boll and Leppin (2015) provide an overview of econometric methods to investigate wage gaps and possible discrimination. Common control variables include the sector, level of education attainment, career stages, field of study or training, the proportion of women in firms and the societal perception of activities performed ('gendered work content').

Beblo, Bender and Wolf (2009) construct a sample of women with and without maternal career breaks who are employed by the same organisation, using German register data generated by the public health insurance, statutory pension scheme and unemployment insurance of women employees registered at least once during 1975 and 1995. The authors construct a control group of women by first estimating the individual propensity of non-mothers to give birth and return to a full-time job within the observation period. Exact matching within the same company then ensures that the group of mothers and the control group are similar in terms of characteristics that influence employment and motherhood, such as age, education, current occupation and past employment history. The authors subsequently estimate wage effects within and across organisations.

How does gender equality affect economic outcomes?

Recent statistics suggest that while there has been a significant increase in the number of women in the German labour force, they still participated less than men. Women represented 46 % of the whole labour force in 2013, yet they accounted for only 40 % of total working time (Brenke, 2015). The main reason for this is that around half of women in the German labour force work part-time.

While Germany has seen an increase in women graduates in STEM subjects, women are still under-represented in academic education and vocational courses, and find it harder to reach the later stages of academic careers (Acatech, 2014; Leszczensky et. al., 2013).

Beblo, Bender and Wolf (2009) find that wages of women who return to full-time work with the same employer are around 19 % lower than those of similar women colleagues 22 months before beginning maternal leave.

Hufnagel (2002) investigates the costs and benefits of equal partnerships in terms of childcare and career breaks. He finds that in 2002 wages of women in Germany were 8.6 % lower than those of men with equal qualifications and work experience. He furthermore finds that taxation helps reduce the unequal wage distribution by about 30 %. He estimates that if parents were to equally concede opportunities for remunerated employment, both parents would face opportunity costs of up to EUR 18 000.

Other empirical research identified a significant unexplained gender pay gap in management positions (Holst and Busch, 2009; Achatz et. al., 2005). However, Schmelder et al. (2015) suggest that there is no general or permanent 'motherhood wage penalty' in Germany, but that career breaks exceeding the legally suggested duration lead to wage penalties. Leuze and Strauß (2009) find that 13-19 % of the gender wage gap among highly educated women and men is not explained by field of study, type of occupation or career stage — and they thus attribute this to discrimination.

Lindstädt, Wolff and Fehre (2011) provide an empirical account of how the proportion of women on the boards of Germany's 30 major publicly traded companies are linked to the financial performance of the companies. They concluded that there are no statistically significant effects that can be observed across the board of all companies inspected. However, there is a statistically significant effect for specific groups of companies, such as:

- companies which have a high proportion of women staff;
- companies predominantly working in retail markets.

There are no comprehensive empirical studies which investigate the overall costs of violence against women. However, Salge et al. (2012) point out that costs on health systems are well documented in other countries and have been linked clearly to domestic violence against women.

Key macroeconomic impacts of gender equality

Few of the inequalities investigated in the context of this study have been investigated for their potential macroeconomic impacts. The literature regarding Germany is focusing mainly on the macroeconomic effects of reintegrating women into the labour market and increasing the number of women STEM graduates.

Some studies investigate the potential amount of female labour that could be activated. Eichhorst, Marx and Tobsch (2010) investigated the potential of mothers with children up to the age of 16 with relevant qualifications to participate in the labour market if flexible working arrangements were provided by employers. They estimated that based on 2009 data, 1.56 million additional full-time equivalents of labour could have been mobilised, out of which three quarters would present a desirable qualification ⁽²²⁾.

Koppel and Plünnecke suggested in 2008 that full-time employment of 240 000 mothers with a STEM qualification who are either inactive or work part-time would generate around a EUR 8 billion surplus in GDP in Germany. They present a mix of incentives to increase childcare support, which would result in a decrease of maternal leave for around 120 000 women per year, and additional tax income of around EUR 1.7 billion until 2020. Anger, Plünnecke and Schmidt (2010) estimate an additional tax income of up to EUR 3.6 billion from expanding childcare support to children up to the age of 10.

Various attempts have been made at estimating the value of unpaid work undertaken by women and men in Germany in order to identify the potential economic value of these activities that women perform more often than men. Schneider, Beblo and Maier (2011) estimate that, depending on the method and data used, German women performed unpaid work equivalent to EUR 417-1 373 billion in 2001, compared to EUR 276-878 billion for men. However, most attempts have been crude and there has so far not been a detailed empirical approach which takes into account the various substitution effects, as well as the different individual characteristics and life situations that women and men can find themselves in. This gap in the empirical literature has been largely due to the lack of relevant data.

⁽²²⁾ Out of which 950 000 from mothers with an ISCED 4 qualification and 250 000 from mothers with qualifications higher than ISCED 4.

Conclusions

On the micro-level, research results suggest that there is persisting wage discrimination against women in Germany. However, the concrete extent of it is highly dependent on the type of activity performed, the sector of performance and the educational attainment of women entering the labour market. Results of research as regards the macroeconomic benefits of gender equality suggest that Germany has large activation potential. While there is no robust research simulating overall macroeconomic effects of higher activation rates, the studies reviewed largely suggest that the overall effect would be beneficial.

Researchers and policymakers continue to discuss the most effective support that government could provide to increase reintegration of woman into the labour market after maternity leave, and decrease the long-term pattern of mothers working part-time for long periods beyond the legal maximum of paid maternity leave. The German government has recently introduced a quota for boards of publicly traded companies and all public bodies, the economic effects of which will surely be the subject of research in the coming years ⁽²³⁾.

Furthermore, German federal and regional government together with industry associations are making concerted efforts to incentivise girls to become interested in STEM careers at secondary school. While women's choices of study are slowly changing, women are still under-represented in many STEM-related study courses.

Bibliography

Acatech (2014), *MINT Nachwuchsbarometer 2014*.

Achatz, J., Gartner, H. and Glück, T. (2005), 'Bonus oder Bias? Mechanismen geschlechtsspezifischer Entlohnung', *KZfSS Kölner Zeitschrift für Soziologie und Sozialpsychologie*, Vol. 57, No 3, pp. 466-493.

Anger, C., Plünnecke, A. and Schmidt, J. (2010), *Bildungsrenditen in Deutschland — Einflussfaktoren, politische Optionen und volkswirtschaftliche Effekte*.

Beblo, M. and Wolf, E. (2000), *How Much Does A Year Off Cost? Estimating the Wage Effects of Employment Breaks and Part-Time Periods*, ZEW Discussion Paper No 00-69.

Beblo, M. and Wolf, E. (2002), *Die Folgekosten von Erwerbsunterbrechungen*, *Vierteljahrshefte zur Wirtschaftsforschung*, ISSN 1861-1559.

Beblo, M., Bender, S. and Wolf, E. (2009), 'Establishment-level wage effects of entering motherhood', *Oxford Economic Papers* 61, pp. i11-i34.

BMFSFJ (2013), *Bilanz Chancengleichheit. Chancengleichheit auf einem guten Weg. Fünfte Bilanz der Vereinbarung zwischen der Bundesregierung und den Spitzenverbänden der deutschen Wirtschaft zur Förderung der Chancengleichheit von Frauen und Männern in der Privatwirtschaft*.

BMFSFJ (2013), *Atlas zur Gleichstellung von Frauen und Männern in Deutschland*.

Boll, C. (2009), *Lohneinbußen durch geburtsbedingte Erwerbsunterbrechungen: Fertilitätstheoretische Einordnung, Quantifizierung auf Basis von SOEP-Daten und familienpolitische Implikationen*, HWWI Research Paper 1-19.

Boll, C. and Leppin, J. (2013), *Equal matches are only half the story. Why German female graduates earn 27 % less than males*, HWWI Research Paper 138.

Boll, C. and Leppin, J. (2015), *Die geschlechtsspezifische Lohnlücke in Deutschland: Umfang, Ursachen und Interpretation*.

Bundesagentur für Arbeit (2015), *Perspektive 2025: Fachkräfte für Deutschland*.

Brenke, K. (2015), *Wachsende Bedeutung der Frauen auf dem Arbeitsmarkt. DIW Wochenbericht 5/2015/*

Drasch, K. (2013), 'Educational Attainment and Family-Related Employment Interruptions in Germany: Do Changing Institutional Settings Matter?', *Eur. Sociol. Rev.*, Vol. 29, No 5, pp. 981-995.

Eichhorst, W., Marx, P. and Tobsch, V. (2011), *Familienfreundliche flexible Arbeitszeiten — ein Baustein zur Bewältigung des Fachkräftemangels (erstellt für das Bundesministerium für Familie, Senioren, Frauen und Jugend)*, IZA Research report No 33.

Haller, B. and Dawid, E. (2006), *Kosten häuslicher Gewalt in Österreich*.

Holst, E. and Busch, A. (2009), *Der 'Gender Pay Gap' in Führungspositionen der Privatwirtschaft in Deutschland*, DIW SOEP-Paper No 169.

⁽²³⁾ Gesetz für die gleichberechtigte Teilhabe von Frauen und Männern an Führungspositionen in der Privatwirtschaft und im öffentlichen Dienst, XVIII/114.

Holst, E. and Busch, A. (2011), *Gender-Specific Occupational Segregation, Glass Ceiling Effects, and Earnings in Managerial Positions: Results of a Fixed Effects Model*, SOEP Paper No 357.

Hufnagel (2002), *Die Kosten von Kindern und die Kosten einer egalitären Partnerschaft*. Vierteljahrshefte zur Wirtschaftsforschung 71, 1, S. 114-125.

HWWI (2013), *Ungenutzte Arbeitskraeftepotenziale in Deutschland: Massnahmen und Effekte*.

Koppel, O., Plünnecke, A. (2008), *Wachstums- und Fiskaleffekte von Massnahmen gegen Fachkräftemangel in Deutschland — Bildungsökonomische Analyse und politische Handlungsempfehlungen insbesondere im MINT-Bereich*.

Leszczczensky, M., Cordes, A., Kerst, C., Meister, T. and Wespel, J. (2013), *Bildung und Qualifikation als Grundlage der technologischen Leistungsfähigkeit Deutschlands. Bericht des Konsortiums 'Bildungsindikatoren und technologische Leistungsfähigkeit'*.

Lindstädt, H., Wolff, M. and Fehre, K. (2011), *Frauen in Führungspositionen. Auswirkungen auf den Unternehmenserfolg*.

Leuze, K. and Strauß, S. (2009), *Lohnungleichheiten zwischen Akademikerinnen und Akademikern: Der Einfluss von fachlicher Spezialisierung, frauendominierten Fächern und beruflicher Segregation*, Zeitschrift für Soziologie, Jg. 38, Heft 4, August 2009, S. 262-281.

Salge, S., Brzank, P. and Niebuhr, D. (2012), *Systematischer Review über Kostenschätzungen zu Intimer Partnergewalt gegen Frauen — Analyse von Kostenkategorien und methodischen Problemen vor internationalem Hintergrund*. Deutsche medizinische Wochenschrift 2012; 137-A288.

Schmelder, P., Kurz, K. and Schulze, K. (2015), 'Einkommensnachteile von Müttern im Vergleich zu kinderlosen Frauen in Deutschland', *KZfSS Kölner Zeitschrift für Soziologie und Sozialpsychologie*, Vol. 7, No 4, pp. 737-762.

Schneider, J., Beblo, M. and Maier, F. (2011), 'Ökonomische Bilanzierung eines Frauen- und eines Männerlebens in Deutschland', *Gender Politik Online*, H. 10/2011, S. 1-25.

Schober, T. and Winter-Ebmer, R. (2011), 'Gender Wage Inequality and Economic Growth: Is There Really a Puzzle? — A Comment', *World Development*, Vol. 39, No 8, pp. 1476-1484.

Wanger, S. (2015), *Frauen und Männer am Arbeitsmarkt: Traditionelle Erwerbs- und Arbeitszeitmuster sind nach wie vor verbreitet* (IAB-Kurzbericht, 04/2015).



Estonia



This factsheet provides an overview of available national evidence of the economic outcomes of gender equality in the areas of labour market participation, pay gap and violence against women.

Social and economic inequalities are poorly studied in Estonia and there are no macroeconomic studies that address the economic impacts of gender equality. Gender equality monitoring (GEM) was administered by the Ministry of Social Affairs and carried out in 2003, 2005, 2009 and 2013. These four reports are descriptive and formulate policy recommendations. They also support the national gender equality development plans.

Labour economists have addressed gender as a category, but analysis from a gender perspective is rare — studies about the gender pay gap are an exception. The economic impact of pay inequalities and future pension perspectives is also addressed in the literature (Võrk et al., 2015). In addition, there are a few studies on women's entrepreneurship,

but the economic impact by gender has not been analysed (for the most recent example, see Laas 2012).

Educational choices, career path and the returns from education are studied in Estonia, as are economic characteristics, but quantitative conclusions on the impact to the economy are unfortunately not obtained (for recent examples, see Espenberg et al., 2012; Laas, 2007; Saar, 2013).

Information on the gender differences in time use is available for Estonia. There are several studies on care-giving, gender and sharing care roles (Karu, 2012), parental leave schemes (Biin et al., 2013), and fatherhood (Karu et al., 2007). However, these studies mostly focus on assessment of gender inequalities rather than their economic impact.

There are also some studies on gender-based violence and harassment (for recent examples, see Karu et al., 2014; Laas and Soo, 2009) and the cost for society has been calculated for rape and manslaughter cases (Kallaste et al., 2015).

Summary table of quantitative studies on economic benefits of gender equality

Area of gender equality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
Labour market participation	Earnings Employment	The employment rate for women with children is much lower than for women without children. Families with pre-school children and employers need work–family reconciliation policies and more flexible parental leave arrangement possibilities to increase their participation in the labour market (Sotsiaalministeerium, 2015; Biin et al., 2013). Women's productivity is lower compared with men, but no calculation of unpaid housework has been made (Mürsepp, 2016).	Calculations based on administrative data analysis and case studies <i>Data sources:</i> Statistics Estonia (demography, social life data); Estonian LFS; administrative databases (Social Insurance Board).
Gender pay gap	Gender pay gap	There were some attempts to explore causes of the gender pay gap, but the unexplained gender wage gap remains high (Anspal, Kraut and Rõõm, 2010; Anspal, 2015). Women's care responsibilities, low self-confidence, rigid gender roles and social norms, and weak gender equality in institutional settings, contribute to a high gender pay gap in actual and expected wages (Vassil et al., 2014).	Econometric analysis, wage decomposition methods; socio-demographic model <i>Data sources:</i> Statistics Estonia; Estonian LFS; data from CV Keskus.
Violence against women	Cost to society	The costs of domestic violence in general have not been calculated. Annual costs associated with rape are EUR 5.6 million and the control costs and consequential costs of one rape case are EUR 97 000. The costs of one homicide case is EUR 1.25 million (Kallaste et al., 2015).	Cost analysis (partial costs, i.e. control costs and consequential costs only) <i>Data sources:</i> survey; cost data from multiple administrative sources (e-File System).



Overview of research methods used

There is no macroeconomic modelling of the economic impacts of gender equality in Estonia. There are only a few gender-sensitive studies carried out by economists and sociologists. The gender pay gap has been the most popular topic for research.

The majority of gender pay gap analysis is based on Estonian LFS data (ELFS), and articles have used regression analysis (Mincer equation). The Oaxaca-Blinder decomposition is also used in the research, as is the Heckman selection model (Oaxaca, 1973).

Anspal, Kraut and Rõõm (2010) argue that the occupational and industry variables are measured in insufficient detail in the commonly used ELFS, which may obfuscate the variables and make it impossible to ensure comparison between women and men workers with comparable characteristics. They hypothesise that the unexplained gap would be smaller if more detailed data were used. They also point out that the unexplained wage gap may be increased by potentially important variables that are usually omitted from Estonian studies, such as work experience, which is a key variable in the human capital model.

Anspal (2015) used Ñopo's non-parametric method for the decomposition, and found that using more detailed data does not eliminate the unexplained wage gap: about half of the wage gap remains unexplained even using the full set of available variables. Anspal has used the Estonian Structure of Earnings Study dataset.

Vörk et al. (2015) used a cohort micro-simulation model to analyse intergenerational distributional effects of Estonian pension reforms from 1999 to 2009⁽²⁴⁾. They used micro-level population data for men born in 1980 from the Estonian National Social Insurance Board⁽²⁵⁾.

Some studies have used special survey data, Estonian data for the European Social Survey (ESS) (Statistics Estonia, 2015). Only some studies on gender have used other national databases. Karu (2012) has used data from the Social

Insurance Board to analyse parental leave and the share of fathers taking parental leave.

How does gender equality affect economic outcomes?

Estonia's labour market is characterised by high participation of women — according to Eurostat, the employment rate for women was 68.5 % in 2015, the fifth highest in the EU-28. Generous maternity leave policies enable women to take substantial time off from their careers around childbirth. With 1.5 years of full income compensation, the parental leave is one of the most generous schemes in Europe, both in terms of duration and compensation. However, only 10 % of fathers take 10 days of paid paternity leave and 6-7 % of fathers take parental leave (Biin et al., 2013).

However, reconciling work and family is poorly addressed in law and employers are reluctant to develop family-friendly policies. In 2013, there was a remarkable number (21 000) of women on maternity or parental leave who would have liked to work during their leave, but could not because it is difficult to combine leave and work (Biin et al., 2013).

Among the inactive Estonian population, 40 000 women have care responsibilities, compared to only 2 000 men in care-giving roles (Sotsiaalministeerium, 2015). Horizontal gender segregation is high, and women dominate labour-intensive areas such as education, retail and manufacturing industry⁽²⁶⁾.

Estonia has the highest gender pay gap among the EU-28. Anspal (2015) has stated that most of the gender pay gap remains unexplained by personal and job characteristics. However, key job characteristics, occupation and industry are usually imprecisely measured, leading to the question of whether all relevant characteristics have been properly taken into account in the decompositions.

Another study confirmed that motherhood explains a significant part of the gender pay gap in Estonia (Anspal et al., 2010). The impact of motherhood on employment (measured by the employment gap between women aged 20 to 49 with and without a child under six years of age) was also among the largest in Europe in 2014, according to Eurostat (almost 30 percentage points). Karu (2012) has found that that the involvement of fathers in childcare has less probability of freeing mothers from childcare responsibilities if the mother was previously unemployed, of young age, or has four or more children.

⁽²⁴⁾ From 1999 to 2009, there was a shift from a defined benefit pay-as-you-go (PAYG) pension system that includes a flat rate component and a length of pensionable service component, to a pension system with contribution-based insurance components in the PAYG scheme and an additional compulsory funded pension scheme. Estonia has low solidarity in the pension system.

⁽²⁵⁾ Women were not included in this analysis to keep the model simple. Adding women would require actual and simulated data on children, as staying on parental leave and raising children affects pension rights.

⁽²⁶⁾ See <https://statistikaamet.wordpress.com/2016/03/08/naiste-panuseesti-majandusse>

On a separate note, high vertical gender segregation in academia leads to lost talent in science. Women's potential is not fulfilled as the investment in good education for women has lower returns in terms of earnings, job positions and social security (European Commission, 2003). Survey results by Saar and Mõttus (2013) indicate that the Estonian higher education sector is clearly gender-segregated. The most notable tendency in higher education is the increasing number of women students. Men still dominate in engineering, manufacturing and technology (although the proportion of women has been increasing), and in sciences, where the proportion of women has remained more or less static.

Women's low share in top positions in academia was studied by Laas (2007) and Talves and Laas (2008). Out of eight specialised groups, education, health and welfare were the ones where the rate of people working in their field of specialisation was the highest ⁽²⁷⁾. These fields of work are dominated by women. Out of 78 full members of the Estonian Academy of Sciences, there are two women only; in 1997-2009 there was only one woman ⁽²⁸⁾.

Studies in management and entrepreneurship have constantly shown that women in Estonia are highly motivated to be involved in continuous education and training ⁽²⁹⁾. Women feel that they have to be better than men to be competitive; this means that good education and high qualifications are highly valued among women (Laas, 2007). On the other hand, there are few women in the economic and political elite in Estonia (Alik, 2015).

Key macroeconomic impacts of gender equality

There is no macroeconomic study that directly focuses on quantification of the economic impacts of gender equality in Estonia. However, there are a few studies that report findings that could potentially imply macroeconomic effects in terms of employment, wages and labour productivity. However, such effects are generally not directly discussed. Estonia has high economic freedom, a flexible labour market, low union power, and low enforcement of employment protection legislation. As a result, the wage distribution is

wide and the unexplained wage gap by gender is large (Anspal et al., 2010; Mõtsmees and Meriküll, 2012).

Increasing gender and income inequalities affect economic growth (Sotsiaalministeerium, 2015); an inadequate social security system, changing household structures and family patterns put one-member households and lone parents at poverty risk (Ibid.). The high gender pay gap, women's lower wages and pensions leads to feminisation of poverty (Ibid.). Every fifth child lives in poverty in Estonia (Ibid.).

An international comparison shows that the level of labour segregation in Estonia is the greatest in Europe (Burchell et al., 2014). Anspal and Rõõm (2011, p. 25) have found that one possible reason for the greater than average gender segregation is the high level of activity for women in the labour market, which results in the need for childcare services. This results in the large share of the educational and social service sectors in the economy — in turn, these sectors employ predominately women employees, which further contributes to segregation.

An ageing society with a women-dominated elderly population with low pensions will present a future challenge and economic burden for the whole of Estonian society ⁽³⁰⁾. Policies related to the promotion of employability of older workers are underdeveloped in Estonia. Older women tend to experience additional problems in the labour market, facing double discrimination in the form of sexist and ageist stereotypes (Saar, 2008).

Vörk et al. (2015) have analysed the intergenerational distributional effects of Estonian pension reforms from 1999 to 2009. There is a prognosis that due to low solidarity in the Estonian pension scheme, the pension gap will increase in the future. Since women live longer, but pay one third less compared with men, poverty among older women and a high burden on the state budget are predicted.

Tackling gender-based violence has been high on the political agenda in Estonia, but statistically the situation is worse than 10 years ago. This is due to the raised awareness of victims and a better-trained criminal justice chain, which result in more frequent reporting (Ahven et al., 2010). Significant potential savings can result from a reduction of gender-based violence. Kallaste et al. (2015) have calculated the costs of three types of registered crimes of violence (manslaughter, rape and robbery), based on the costs related to the criminal procedures of crimes and punishment, i.e. control costs and the damage arising from their results,

⁽²⁷⁾ Not all people who graduate can find jobs in the field in which they have specialised. Graduates of eight different specialised fields were differentiated. These were education; humanitarian fields and art; social sciences, business and justice; natural and exact sciences; technology, manufacturing and construction; agriculture; health and welfare, and service. The period analysed was 1997 to 2004.

⁽²⁸⁾ See <http://www.akadeemia.ee/en/membership>

⁽²⁹⁾ Statistics Estonia: <http://www.stat.ee>

⁽³⁰⁾ Statistics Estonia Statistical Databse: <http://www.stat.ee>; Soolõime teemaleht: Sotsiaalkindlustus (Gender Mainstreaming: Social Security), http://www.vordoigusvolinik.ee/wp-content/uploads/2016/03/10_-Teemaleht-Sotsiaalkindlustus.pdf



i.e. consequential costs. They have found that annual costs associated with rape are EUR 5.6 million and that the control costs and consequential costs of one rape case are EUR 97 000.

Conclusions

The gender pay gap (GPG) is one of the key indicators of gender inequality in Estonia. This indicator reflects the discrimination in the country's labour market: Estonia has the highest gender pay gap among EU-28 countries. While studies on GPG are frequent and continue to examine the unexplained part of GPG, they remain modest in proposing how to address it.

Some further problems with gender inequality (women's low position in policy and the economy, women as an unused well-educated resource, low return on women's educational investment, notable share of women in the inactive working age population) are identified as a potential source of loss for the Estonian economy and society, but research is rather descriptive and forecasts of economic losses are not made. In this area, it is important to pursue studies on the pension gap.

Estonia needs to make changes in many areas to address gender inequalities in society. The Norway Grants programme has supported extensive research on the gender pay gap, gender-based violence, and gender mainstreaming. Changes are needed in care policies, rigid parental leave rules and responsive policies in employment due to changed working patterns, taking into account the unpaid work and contribution of low-paid employees.

Bibliography

Ahven, A., Kommel, K., Markina, A., Rannama, T., Salla, J., Surva, L., Sööt, M.-L., Tamm, K., Tuisk, K. and Vajakas, K. (2010), *Kuriteoohvrite uuring, 2009. Justiitsministeeriumi kriminaalpoliitika uuringud*, 14.

Allik, M. (2015), *Naiskandidaadid, häälid ja mandaadid: Rigikogu valimised 2015* (Female candidates, votes and mandates: Parliamentary elections in 2015).

Allik, M. (2015), 'Who stands in the way of women? Open vs. closed lists and candidate gender in Estonia', *East European Politics*, Vol. 31, No 4, pp. 429-451.

Anspal, S. (2015), 'Gender wage gap in Estonia: A non-parametric decomposition', *Baltic Journal of Economics*, Vol. 15, No 1, pp. 1-16.

Anspal, S., Kraut, L. and Rõõm, T. (2010), *Sooline palgalõhe Eestis: empiiriline analüüs. Uuringuraport* (Gender pay gap in Estonia: empirical analysis. Survey report), Sotsiaalministeerium.

Anspal, S. and Rõõm, T. (2011), *Gender Pay Gap in Estonia: Empirical Analysis*, Sotsiaalministeerium, Tallinn, available online: https://www.sm.ee/sites/default/files/content-editors/Ministeerium_kontaktid/Valjaanded/gender_pay_gap_estonia_analysis.pdf

Biin, H., Karu, M., Masso, M. and Veldre, V. (2013), *Eesti vanemapuhkuste süsteemi analüüs* (Analysis of Estonian Parental Leave System), SA Poliitikauuringute Keskus PRAXIS.

Burchell, B., Vincent Hardy, V., Rubery, J. and Smith, M. (2014), *A New Method to Understand Occupational Gender Segregation in European Labour Markets*.

EGGE (2009), *Gender segregation in the labour market. Root causes, implications and policy responses in the EU*.

Espenberg, K., Theamas, A., Masso, J. and Eamets, R. (2012), 'Does university degree pay off in the Estonian labour market?', *Studies for the Learning Society*, 2, pp. 46-60.

European Commission — Directorate-General for Research (2003), *Waste of talents: Turning private struggles into a public issue: Women and Science in the Enwise countries*.

Kallaste, E., Luuk, E., Järve, J., Kaska, M. and Räis, M. L. (2015), *Vägivalakuritegude hind. Tapmise, vägistamise ja röövimise ga kaasnevad kulud Eesti ühiskonnale* (The Cost of Crimes of Violence: Costs for Estonian society related with manslaughter, rape and robbery), Eesti Rakendusuuringu Keskus CentAR (Estonian Centre for Applied Research CentAR).

Karu, M. (2012), 'Parental Leave in Estonia: Does Familization of Fathers Lead to Defamilization of Mothers?', *NORA: Nordic Journal of Women's Studies*, Vol. 20, No 2, pp. 94-108.

Karu, M., Kasearu, K. and Biin, H. (2007), *Isad ja lapsehoolduspuhkus* (Fathers and parental leave), Poliitikauuringute Keskus PRAXIS, Tallinn.

Karu, M., Soo, K., Biin, H., Lamesoo, K., Meior, M., Masso, M. and Turk, P. (2014), *Sooline ja seksuaalne ahistamine töökohal* (Gendered and sexual harassment at the workplace), SA Poliitikauuringute Keskus PRAXIS, Tartu Ülikool.

Laas, A. (2007), 'Estonia: Country Report', in Satkovskiene, D. (ed.), *Women in sciences and high technology in the Baltic States: Problems and solutions*, Vilnius University Press.

Laas, A. (2012), *ETNA Mikrokrediit. Naiste ettevõtlusuuringu aruanne*.

Laas, A. and Soo, K. (2009), *Naistevastane vägivald paarisuhtes ja töökohal. Soolise vägivalda indikaatorid (Violence against Women in intimate partnership and at workplace. Gender violence indicators)*, pp. 1-53, http://www.ut.ee/gender/pdf/GVEI_indikaatorid.pdf

Ñopo, H. (2008), 'Matching as a tool to decompose wage gaps', *The Review of Economics and Statistics*, Vol. 90, No 2, pp. 290-299.

Oaxaca, R. L. (1973), 'Male-Female Wage Differentials in Urban Labor Markets', *International Economic Review*, Vol. 14, No 3, pp. 693-709.

Saar, E. (2008), 'Different Cohorts and Evaluation of Income Differences in Estonia', *International Sociology*, Vol. 23, No 3, pp. 417-445.

Saar, E. and Möttus, R. (eds.) (2013), *Higher Education at a Crossroad: The Case of Estonia*, Peter Lang AG, New York.

Sotsiaalministeerium (2015), *Peretoetuste, teenuste ja vanemapuhkuste roheline raamat (Green Paper on Family Benefits, Services and Parental Leave)*, available at: <https://statistikaamet.wordpress.com/tag/tooturg>

Sotsiaalministeerium (2015), *Heaolu arengukava 2016-2023 (Welfare Development Plan 2016–2023)*.

Talves, K. and Laas, A. (2008), *Väljapaistvad naised teaduses: naisteadlaste karjääriteed 'eduka teadlase' diskursuse taustal (Prominent Women in Science: Career Paths of Women Scientists and the Discourse of 'Successful Scientist')*, *Ariadne Lõng: nais- ja meesuuringute ajakiri*, 1/2, pp. 19-33.

Vassil, K., Eamets, R. and Mötsmees, P. (2014), *Socio-demographic Model of Gender Gap in Expected and Actual Wages in Estonia*, IZA Discussion Paper No 8604, pp. 1-28.

Vörk, A., Piirits, M. and Jõgi, E. (2015), *The impact of introduction of funded pension schemes on intragenerational inequality in Estonia: A cohort microsimulation analysis*, Netspar Discussion Papers, available at: <http://arno.uvt.nl/show.cgi?fid=137638>



Ireland



This factsheet provides an overview of available national evidence of the economic outcomes of gender equality in the areas of labour market participation, pay gap and health.

There are several studies reviewed that examine gender equality issues in Ireland by using advanced statistical techniques, including regressions and macroeconomic models. However, none focus specifically on the macroeconomic impacts of gender equality.

One microeconomic study aims specifically to quantify the business benefits of managing equality and diversity effectively in the workplace (Armstrong et al., 2010), in terms of labour productivity, workforce innovation and employee turnover. However, this study considers equality from a broad perspective, and is not only focused on gender diversity but also diversity on other grounds. Furthermore, this study represents an exception. The remaining seven econometric studies do not focus specifically on the economic impacts of gender equality, but rather on the causes of gender inequalities, particularly in the labour market.

Issues explored in these seven studies include: the impact of different factors on the gender pay gap in the private sector (Russell et al., 2010); the impact of different factors on women's decision to join the labour market (Russell et al., 2009); the connections between the legalisation of

divorce and female labour supply (Bargain et al., 2010); the impact of income tax structure on women's labour market participation (Callan et al., 2007); the transition factors that lead women to move from the home into paid employment or education (Russell and O'Connell, 2004); the connection between maternity postponement and women's participation in the workforce (O'Donoghue et al., 2009); and the impact of equality legislation on the gender pay gap (Cassidy et al., 2002).

In addition to these eight studies, there are two studies using advanced statistical techniques to explore distinct but related issues. One macroeconomic study explores the connections between contraception availability, demographic change and economic growth (Bloom and Canning, 2003). The other econometric study (Madden, 2008) explores the merits of Heckman sample selection and two-part models in measuring alcohol and tobacco consumption among women in Ireland. However, this second study does not consider gender equality or gender differences in depth, and so has been excluded from this factsheet.

One further quantitative study has explored gender equality and entrepreneurship (Treanor and Henry, 2010), but it uses descriptive quantitative analysis only. There are many additional studies that explore gender equality issues qualitatively, but these are excluded from this factsheet.

Summary table of quantitative studies on economic benefits of gender equality

Area of gender equality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
Labour market participation	Employment Productivity Workforce innovation Employee turnover	<p>There is no quantitative evidence of macroeconomic impacts. Increases in women's employment are said to have increased Irish economic growth between 1990 and 2006, as women accounted for nine tenths of the increase in those joining the labour market (Cournède, 2006). Similarly, the increase in labour force participation of women aged 25-40 between 1980 and 2000 is said to have contributed to greater labour supply per capita in Ireland (Bloom and Canning, 2003).</p> <p>In addition, there is some evidence of microeconomic impacts with potential macroeconomic consequences:</p> <p>Managing equality and diversity more effectively in a typical firm could bring in higher sales per employee of EUR 60 420 (Armstrong et al., 2010).</p> <p>Other studies econometrically assess the factors that influence women's participation in the labour market (Russell et al., 2009; Russell and O'Connell, 2004), including the influence of legalisation of divorce (Bargain et al., 2010); the impact of income tax structure (Callan et al., 2007); and maternity postponement (O'Donoghue et al., 2009).</p>	<p>Primarily econometric analysis</p> <p>Sources: longitudinal survey data; economic surveys of Ireland; small-scale survey of industry representatives.</p>



Gender pay gap	Gender pay gap	No evidence of macroeconomic impacts. One study (Russell et al., 2010) uses a series of regression models to explore the impact of different factors on the gender pay gap in the private sector. Another study (Cassidy et al., 2002) econometrically assesses the impact of equality legislation on the gender pay gap.	Micro-econometric analysis <i>Sources:</i> survey of graduates; wage series data ⁽²⁹⁾ .
Health	GDP per capita Labour market participation rate Ratio working age to total population Fertility rate	One study econometrically assesses the connections between contraception availability, demographic change and economic growth in Ireland, and links above average economic growth in the 1990s with the falling dependency rate (Bloom and Canning, 2003).	Econometric analysis <i>Sources:</i> multiple international data sources, including UN and ILO data.

Overview of research methods used

There is one microeconomic study (Armstrong et al, 2010) that explores the quantitative business benefits of applying a diversity and equality management system (DEMS) and a high-performance work system (HPWS). It considers the impact of HPWS and DEMS on labour productivity, workforce innovation, and employee turnover. The study used multiple methods to check for possible non-response bias, including a time trend extrapolation test (comparing early and late respondents across study variables) ⁽³²⁾, and an ANOVA procedure comparing respondents and non-respondents ⁽³³⁾. The study employed OLS regression analysis as the main test of its research questions.

Another study (Russell et al., 2010) uses a series of regression models to explore the impact of different factors on the gender pay gap among recent graduates in the private sector in Ireland. These factors include: educational human capital, labour market human capital, match between education and current job, institutional characteristics and work values/commitment.

In addition, there are several studies that focus on determinants of labour market participation of women:

- Callan et al. (2007) uses a discrete choice static labour supply model for married couples in Ireland in order to consider the effect of the structure of income taxes on women's labour market participation. The model includes fixed working costs and details of the tax and welfare system. The estimates are based on 1994 data from the Living in Ireland Survey (LII) ⁽³⁴⁾.
- Russell and O'Connell (2004) use nationally representative longitudinal data to model the transition process of supply and demand factors that lead women to leave the home to return to employment, education or training. Using the Living in Ireland Surveys, the study examines women who are in home duties in 1 year and considers their employment status when they are re-interviewed the following year. The transitions are considered for five pairs of years between 1994 and 1999. Two multinomial logit models are used to estimate the probability of leaving home duties.
- Russell et al. (2009) brings together the results of previous studies, using regression analyses to examine the factors that influence women's participation in the labour market (expected wage, age, spouse's net income, number and age of children) and comparing women of different qualification levels.
- Bargain et al. (2010) tests the proposition that the possibility of divorce and marital breakdown (brought about by the legalisation of divorce in 1996) resulted in a rise in women's labour market participation. It does so by using a difference-in-difference approach and compares

⁽³¹⁾ However, at the time of the study, data with a consistent time series of wages was available only for the manufacturing sector.

⁽³²⁾ T-tests showed no significant differences between early and late respondents using the key study variables.

⁽³³⁾ Using the limited data from the 2005 version of the Irish Times Top 1000 companies. The procedure found no significant differences between respondents and non-respondents when it comes to company size or industry distribution.

⁽³⁴⁾ 'This is a representative household panel containing about 1 300 married couples in the age group 18 to 65' (Callan et al., 2007).

married couples from the pre-divorce period with those in the post-divorce period ⁽³⁵⁾. The outcome of married women's labour supply is expressed as a continuous variable, meaning OLS can be used for one model. It also estimates the participation decision using a linear probability model. The results are based on samples from the Living in Ireland Survey (LII), a longitudinal survey conducted annually between 1994 and 2001 and with a representative sample of the Irish population. The study uses propensity score reweighting and a selection and fixed effects model as specification checks.

- O'Donoghue et al. (2009) test the proposition that higher levels of women's labour market participation leads to delayed maternity, using a hazards model to empirically test the relationship between career planning and the timing of first and subsequent births. The study uses life history data collected in the 1994 Living in Ireland Survey. The study uses a variant of Walker's (1995) model of fertility.

Finally, Cassidy et al. (2002) econometrically assesses the impact of equality legislation — the Anti-Discrimination (Pay) Act of 1974 and the Employment Equality Act of 1977 — on the women–men pay gap in Ireland.

How does gender equality affect economic outcomes?

The majority of the econometric research in Ireland considers gender equality in relation to the labour market, and not in relation to other areas (violence, health, etc.). The reviewed literature identifies several factors which have an effect on the decision to work and on career planning. These include:

- The tax treatment of married couples in Ireland has been found to have significant impacts on the employment rate of women (Callan et al., 2007). Specifically, the authors found that greater independence in the tax treatment of husbands and wives, and lower marginal tax rates on secondary earners, had a great impact on labour supply, which was larger than the effect through reducing taxes substantially. The study also found that the fixed costs of working for women with a young child

(0-5) were approximately three to four times greater than the costs associated with an older child, and that having young children negatively impacted female labour supply. Children did not have an impact on husbands' fixed costs of working. The study also predicts that, were women and men's wage rates to increase by 1 %, the desired hours of women would rise by 0.48 %, and those of men would rise by 0.18 %.

- Educational levels and having young children have been shown to have large impacts on the likelihood that women will enter employment or education from home duties, for women in full-time home duties between 1994 and 1999 (Russell and O'Connell, 2004). Women with tertiary education were over two times more likely than those without qualifications to transition into employment. Having pre-school children significantly reduced the chance that women would make a transition into employment, potentially reflecting a lack of affordable and accessible childcare.
- Russell et al. (2009) confirmed the important impact of having pre-school children, which is shown to limit women's decision to work, but they also attested to the importance of the expected wage and the age of women.
- The legalisation of divorce in 1996 appears to have contributed to a statistically significant rise in the female labour supply, especially at the extensive margin (Bargain et al., 2010). However, the study did not find a significant increase in the level of child rearing undertaken by men, nor a significant decrease in the level of child rearing undertaken by women. The study warns that this may suggest that the greater labour market participation of women has thus come at the cost of their leisure time and welfare. The study also found that for married women who already worked, the legalisation of divorce did not lead to a significant rise in their working hours. This implies that labour market attachment is more important for these women than hours of work.
- Career planning was found to have had an impact on the age at which mothers had their first child (and subsequent children), contributing to a long-trend of maternity postponement in Ireland (O'Donoghue et al., 2009). However, this study did not examine the economic effects of increased career planning and higher education of women, failing to consider, for example, rises in the skilled employment of women.

There are also two studies that explored determinants of gender pay gaps, but they do not discuss macroeconomic impacts of such gaps. One study (Russell et al., 2010)

⁽³⁵⁾ It uses three periods to cover couples in the post-divorce period: the first "post" group is simply obtained by pooling observations from voting day [1996] until 2001. Since the first Irish divorce was passed in 1997 with substantial media coverage, we use the period 1997-2001 as an alternative "post" group. As one may argue that it took time for the increased rate of divorce/separation to affect the perceived risk of marital breakdown, we also use a later period 1998-2001. We also provide a "check" difference-in-difference estimation based on pre- and post- periods which do not surround the legalisation of divorce, namely 1998-1999 and 2000-2001' (Bargain et al., 2010).



explored the causes of the gender pay gaps in the private sector among recent graduates. In individual models, it found a significant negative interaction between past job experience and being female, demonstrating that men in the sector received higher wage rewards for past work experience. While gender differences in subject choice contributed to pay difference in the sector, being a woman continued to have significant negative impacts, even when subject choice was controlled for. Importantly, when all variables were modelled together (the 'full model'), men continued to receive significantly higher rewards for postgraduate education: men with a postgraduate education received twice the return (34.5 % increase in log hourly wages), compared to women in the same position (17.6 % increase). In the full model, the other variables had impacts but ceased to be significant. This was a relatively robust study, in that the Heckman Selection Correction Model found no significant selection effect. Another study (Cassidy et al., 2002) found the 1970s equality legislation accounted for only a small part of the decline in the gender pay gap.

Finally, Armstrong et al. (2010) measure the impact of having a diversity and equality management system (DEMS) and a high-performance work system (HPWS) on firm performance. It found that using a HPWS had significant and positive effects on labour productivity, workforce innovation, and voluntary turnover. It also found that increasing the DEMS from 'average' to 'above average' (one standard deviation above the mean) would, for the typical firm in the sample, lead to higher sales per employee of EUR 60 420 ⁽³⁶⁾. The authors concluded that their study offered a 'strong business case for building management systems that deal effectively with issues related to traditional strategic human resources management, diversity, and equality'. However, they did not discuss what effects such an increase in performance could have on macroeconomic indicators.

Key macroeconomic impacts of gender equality

The reviewed literature that assessed macroeconomic impacts of gender equality in Ireland primarily focused on the impacts of greater participation of women in the labour market on macroeconomic performance. Rises in women's employment have been linked to economic growth in Ireland in the 1980s, 1990s and early 2000s, although there are no explicit attempts to demonstrate quantitatively the causal nature of this connection. One study (Cournède, 2006) discusses the key impacts of women's employment

⁽³⁶⁾ The implication in this study is that this gain is per year, although the study does not explicitly state the time period to which this gain applies.

on Irish economic growth between 1990 and 2006, stating that women accounted for nine tenths of the increase in those joining the labour market after 1990. Similarly, another study (Bloom and Canning, 2003) argues that economic growth in Ireland in the period 1980-2000 was partly fuelled by the increase in labour supply per capita, and that greater women's labour force participation in the 25-40 age range made a substantial contribution to this trend.

However, neither study quantitatively measures the impact of women's employment on economic growth. Furthermore, the second study (Bloom and Canning, 2003) argues that the principal driver of Irish economic growth between 1980 and 2000 was in fact the changing age structure of the population and the rise in the number of people of working age, due to the legalisation of contraception and the falling fertility rate.

Apart from these studies, Russell et al. (2009) explore the labour market impacts of higher employment of women, specifically their impacts on the gender pay gap and the level of occupational segregation. It found that the rapid rise in women's employment had come with a slight decrease in the gender pay gap since 2000. It also found that women made major advances into traditionally male occupations in the period 1996-2006, although with some trends in the opposite direction. However, these impacts are assessed only through a descriptive analysis of existing quantitative analysis, as opposed to the econometric techniques used in other sections of the study.

Overall, there are no studies that would quantify the relationship between increased gender equality and economic growth or traditional macroeconomic output indicators (i.e. GDP).

Conclusions

Considering gender equality studies in Ireland since 2000, those that employ statistically advanced techniques mainly use forms of regression analysis to examine the causes and contributing factors to gender inequalities in the labour market, rather than the macroeconomic impacts of increasing gender equalities. Nonetheless, they offer important insights into the significant barriers to women's employment in Ireland, particularly the presence of pre-school children in the household (Russell et al., 2009) and the properties of the tax system for married couples (Callan et al., 2007). Education also emerges as a key factor in women's career planning, although, as one study identifies (Russell et al., 2010), this may generate differential and unequal pay/career rewards for women and men. The predicted wage and

the age of the woman are also significant factors impacting women's decision to work (Russell et al., 2009).

One study (Armstrong et al., 2010) demonstrates the benefits to firm performance of greater equality and diversity management in the workplace. In future, it may be of interest to examine the economic impacts of gender equality and diversity specifically (rather than diversity on a wide range of grounds).

Bibliography

Armstrong, C., Flood, P., Guthrie, J., Liu, W., MacCurtain, S. and Mkamwa, T. (2010), 'The impact of diversity and equality management on firm performance: Beyond high performance work systems', *Human Resource Management*, Vol. 49, No 6, pp. 977-998.

Bargain, O., González, L., Keane, C. and Özcan, B. (2010), *Female Labour Supply and Divorce — New evidence from Ireland*.

Bloom, D. E. and Canning, D. (2003), 'Contraception and the Celtic Tiger', *Economic and Social Review*, Vol. 34, No 3, pp. 229-247.

Callan, T., Van Soest, A. and Walsh, J. R. (2007), *Tax Structure and Female Labour Market Participation: Evidence from Ireland*, Working Paper No 208 ⁽³⁷⁾.

Cassidy, M., Strobl, E. and Thornton, R. (2002), 'Gender Pay Differentials and Equality Legislation in the Republic of Ireland', *Canadian Public Policy*, Vol. 28, No 51, pp. 149-169,

Cournède, B. (2006), *Removing Obstacles to Employment for Women in Ireland*, OECD Economics Department, Working Papers, No 511, OECD Publishing.

Madden, D. (2008), 'Sample selection versus two-part models revisited: The case of female smoking and drinking', *Journal Of Health Economics*, Vol. 27, No 2, pp. 300-307.

O'Donoghue, C., Meredith, D. and O'Shea, E. (2009), *Postponing maternity in Ireland*, IZA Discussion Paper No 4192.

Russell, H., and O'Connell, P. J. (2004), 'Women Returning to Employment, Education and Training in Ireland: An Analysis of Transitions', *The Economic and Social Review*, Vol. 35, No 1, pp. 1-25.

Russell, H., McGinnity, F., Callan, T. and Keane, C. (2009), *A Woman's Place: Female Participation in the Irish Labour Market*.

Russell, H., Smyth, E. and O'Connell, P. J. (2010), 'Gender differences in pay among recent graduates: Private sector employees in Ireland', *Journal of Youth Studies*, Vol. 13, No 2, pp. 213-233.

Treanor, L. and Henry, C. (2010), 'Gender in campus incubation: Evidence from Ireland', *International Journal of Gender and Entrepreneurship*, Vol. 2, N 2, pp. 130-149.

⁽³⁷⁾ Subsequently published as 'Tax Structure and Female Labour Supply: Evidence from Ireland', *LABOUR: Review of Labour Economics and Industrial Relations*, Vol. 23, No 1, March 2009, pp. 1-35. However, this article is not publicly available.



Greece

This factsheet provides an overview of available national evidence of the economic outcomes of gender equality in the areas of labour market participation, education, pay gap and migration.

In the literature dealing with the Greek economy, there are several studies that assess the impact of macroeconomic indicators on gender equality. Prior to the economic crisis, the literature focused mostly on women's entrepreneurship, horizontal and vertical gender segregation and the gender wage gap (Stratigaki, 2005, Maratou-Alipranti, 2008). There are two studies of the gender wage gap using advanced statistical methods (Dermanakis, 2004, 2005; Karamessini and Ioakeimoglou, 2003, 2007). There is also one paper that examines whether gender inequalities should be explained in relation to employees' endowments or in terms of discrimination in the labour market in Greece and the UK (Livanos, Yalkin and Nuñez, 2009). Although these studies made policy recommendations based on the assumption that gender equality promotes growth and innovation, they did not produce any research results on the positive impact of gender equality on macroeconomic indicators and no new methods were introduced to study the impact of gender equality changes on macroeconomic performance.

After 2009, the literature focuses mostly on the impact of the economic crisis on gender equality. There is one article that studies the impact of the crisis on gender inequalities in terms of distributional effects (Matsaganis, 2012). In 2013, feminist economists published a book that includes a study of gender equality in the Greek labour market and problematises the 'reserve labour' hypothesis that prevailed in the past, but also addresses the potential impact of austerity measures, especially budget cuts in welfare and the reduction of the public sector labour force (Karamessini, 2013). Although the literature on the crisis documents that gender gaps tend to narrow as the economic crisis deepens, there is no research on the macroeconomic impact of these changes.

In sum, we could argue that the Greek literature is divided into two periods during which different focuses prevail: while prior to the economic crisis, the focus was on the impact of traditional forms of gender stereotyping and discrimination, after the economic crisis the focus shifts to recession and the policies of austerity.

Summary table of quantitative studies on economic benefits of gender equality

Area of gender equality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
Labour market participation	Employment	No evidence of macroeconomic impact of gender equality. Evidence that changes in employment rates in specific sectors have substantial direct impact on overall female–male employment due to high segregation in the labour market (Stratigaki, 2005, and Maratou-Alipranti, 2008).	No macroeconomic model used <i>Data sources:</i> Eurostat and ELSTAT Labour Force Surveys, and Women and Men in Top Leadership Positions in the EU (Maratou-Alipranti, 2008).
Gender pay gap	Gender pay gap	No evidence of the impact of gender pay gaps on macroeconomic indicator, but gender pay gaps are linked in statistical analysis with gender segregation in the Greek labour market and differences in value and pay levels in 'feminised' and 'masculinised sectors' (Dermanakis, 2004, 2008; Karamessini and Ioakeimoglou, 2003, 2013).	Micro-econometric analysis <i>Data sources:</i> Survey on the Structure and Allocation of Payments in Companies; Survey on Structure and Allocation of Payments in Companies; ELSTAT.
Education	Gender pay gap	Evidence of correlation between gender wage gap and gender segregation in education (Karamessini, 2010; Livanos and Pouliakas, 2012).	Microeconomic analysis <i>Data sources:</i> questionnaires (Karamessini, 2010). ELSTAT statistics on university degrees by sex and Eurostat Labour Force Survey (Livanos and Pouliakas, 2012).



Migration	Labour market participation	Evidence that transferring care work from women in the household to migrant domestic workers can lead to improvements in women's employment (Lyberaki, 2011).	Microeconomic analysis <i>Data sources:</i> ELSTAT labour force statistics and ELSTAT migration statistics.
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Overview of research methods used

Prior to 2009, the literature was mainly focused on examining and identifying the causes of women's low employment participation rates and the higher-than-EU-average women's unemployment rates in the Greek labour market. In this context, the literature on women's entrepreneurship is especially relevant since it emphasised the positive impact of gender equality on growth and innovation as a general policy objective (but not as a research question). Leading research in these areas was published in a collection of articles that used the statistics of the Greek Labour Force Survey and Eurostat to discuss the horizontal and vertical gender segregation in different sectors of employment (Stratigaki, 2005). A 2008 study based on the same investigating principles examined the gender segregation of the Greek labour market in relation to the different employment sectors and professions (Maratou-Alipranti, 2008). This 2008 study also used data from the Greek and EU Labour Force Surveys, as well as European Commission data on women in leadership positions and women in science, in order to examine whether declining employment rates in specific sectors and professions have had an impact on overall women's employment and unemployment rates. The analyses in this research area did not use advanced statistical methods, but used existing statistical tables from Eurostat and ELSTAT (Greek National Statistical Office).

There were, however, more complex quantitative analyses examining the glass-ceiling phenomenon. Firstly, there has been a series of reports published in a statistical bulletin by Dermanakis, who used the data from the Survey on the Structure and Allocation of Payments in Companies. The research examined the hypothesis that women are excluded from well-paid employment since the highest-ranking positions in professional hierarchies, which correspond to the top 10% of the best-paid positions, are in larger male-dominated companies (Dermanakis, 2004). In a second statistical analysis, the same author studied sex segregation in professional occupation using IS (IMM) and ID indicators, which show the percentage of women and men workers who should change profession in order to overcome sex segregation in professional occupation by year and age (Dermanakis, 2008, p. 4).

Moreover, a paper analysing the factors that determine the pay gap between women and men published in 2013

developed a framework of wage determination and a new method of decomposition of the gender pay gap based on feminist and Marxist economical approaches (Karamesini and loakeimoglou, 2013). This framework is based on a two-wage equations analysis of the gender wage gap: the first is composed in relation to average occupational wages and the second to individual wages as deviations from occupational wages. The paper argues that compared to liberal approaches (such as Brown-Moon-Zoloth), this feminist Marxist method is much more useful in understanding the gender wage gap because it accounts for both unequal pay for equal work and unequal pay for work of equal value in different sectors. The data is from a Survey on the Structure and Allocation of Payments in Companies collected by the Greek statistical service ELSTAT (Karamesini and loakeimoglou, 2003).

One more study is of interest in this context: a comparative study exploring the factors affecting women's employment and unemployment rates in Greece and the UK, which assessed the level of gender discrimination in the labour markets in a comparative framework. The study was based on data from the Labour Force Survey of Eurostat, which was used to examine 'the impact of observable characteristics on female labour market participation, unemployment and self-employment through the use of logit models'. An 'extension of the Oaxaca-Blinder decomposition technique' was utilised in order to 'estimate the gender employment discrimination gap' (Livanos, Yalkin and Nuñez, 2009).

After the economic crisis, a new literature strand develops that brings to the forefront the impact of the economic crisis on gender equality. Early statistical studies on the distributional impact of the crisis show that both job losses and the risk of poverty affected more men than women (Matsaganis and Leventi, 2011; Matsaganis, 2012). This has led to a significant reduction in gender gaps in employment and unemployment, which is considerable and tends to produce a stable change in the Greek labour market. Using the statistical data for the Labour Force Survey of Eurostat and ELSTAT, however, Karamessini shows that gender gaps have decreased, but are likely to increase again if under the new austerity policies cuts in public sector jobs and care provisions are implemented (Karamessini, 2013).

There are two more studies of interest because they develop more focused analyses on gender equality and education and gender equality and migration. First, there is a 2010 study

which examines gender segregation in education using statistical methodologies to develop a link between educational and professional gender segregation (Karamessini, 2010). Second, there is a study using microdata from the Greek Labour Force Survey, where Oaxaca-Blinder decompositions are employed to detect the extent to which gender differences in the type of degree studied can explain the women–men pay gap. Risk-augmented earnings functions are also used to examine the differential wage premiums offered to women and men in Greece in response to the uncertainty associated with different fields of study, in order to examine the relationship between the wage gap and educational segregation (Livanos and Pouliakas, 2012).

Finally, there is also a study that examines the impact of immigration on care and the participation of women in the labour force (Lyberaki, 2011).

How does gender equality affect economic outcomes?

There are several studies that examine gender segregation in the Greek educational system. These studies demonstrate a continuous pattern of gender segregation between ‘female’ and ‘male’ subjects of study, which is slowly improving (European Commission, 2013; KETHI, 2013). Although since the beginning of the 2000s girls’ attainment records and educational performance are overall superior to those of boys, there are continuities in these forms of gender segregation (European Commission, 2013; KETHI, 2013). Since the 2000s, there are many qualitative and quantitative studies on the gendered perceptions of educational subjects and professions based mostly on local small-scale surveys with questionnaires (see Frossi, Kouimitzi and Papadimou, 2001; KETHI, 2013; Centre for Research of the University of Piraeus, 2013). All these studies point to similar findings about the persistence of gender stereotyping and gender segregation in Greek educational practices, but most studies fail to explore the relation between gender segregation in education and the labour market (Frossi, Kouimitzi and Papadimou, 2001; KETHI, 2013; Centre for Research of the University of Piraeus, 2013).

There are two studies, however, which address this gap in the literature. First, research on the high percentages of youth unemployment of university graduates shows that gender and family background play an important role in the transition strategies of women and men students into the Greek labour market (Karamessini, 2010). Second, Livanos and Pouliakas, provide evidence that different degrees by sex are linked to differences in wages, thus establishing a link between gender segregation in education, employment found by women and men graduates and the gender wage gap (Livanos and Pouliakas, 2012)

Many factors were identified to explain changes and continuities in gender equality in the labour market in Greece:

- First, the relevant literature documented the dominance of small-to-medium family-run businesses, in which Greek women traditionally work informally, as members of the family. The rise of women’s participation in the labour market was connected to the rise of the service sector and the demise of male-dominated agricultural and industrial sectors (Stratigaki, 2015; Karamessini, 2013).
- The lack of care provision by the market also acts as a barrier for women to enter into paid employment: transferring care work from the women of the family to the market has a potentially liberating effect (Lyberaki, 2011, p. 105).
- Moreover, until 2009 there was continuity in gender inequalities, especially in sectors with a stable labour force. As one analysis pointed out, ‘women occupied traditional male positions only in those sectors where new employment was created. On the contrary in sectors with stable labour force, the division between men and women remained the same and in some cases was reinforced’ (Maratou-Alipranti, 2008, p. 28).

After 2009, we can see that these patterns are reversed: as the economy has shrunk and unemployment has risen, men-dominated sectors have become more vulnerable. Unemployment rose from 5.3 % in 2007 to 23.7 % in 2014 for men, while for women it rose from 12.9 % to 30.2 % (Eurostat, 2015). Overall both women’s and men’s unemployment rose, while the gender unemployment gap, which is one of the highest in the EU, was reduced. The observed reduction in the gender unemployment gap appears to be the outcome of negative developments in men’s unemployment, i.e. the dramatic impact of the recession in some male-dominated sectors, such as the construction industry, as well as the deregulation of the labour market and the prevalence of precarious employment, in which women are over-represented (Karamessini, 2013).

There is also some research that addresses the link between gender equality in other areas and economic outcomes:

- Some studies show that although gender gaps in employment and unemployment have decreased mainly because of policies promoting gender equality in employment, Greece’s welfare system has favoured a male-breadwinner model (Karamessini, 2004, 2013; Livanos et al., 2008; Matsaganis, 2012).



- Lyberaki attributes the improvements that occurred since the 1990s in women's participation in the labour market to the ample supply of affordable care services provided by migrant women as Greece rapidly changed from a sending to a receiving migrant country (Lyberaki, 2011, p. 107). After 2009, with the drop of per household income and rising unemployment, the care services by migrant women are at great risk because they rely heavily on households' ability to afford and pay for these services (Lyberaki, 2011).

Key macroeconomic impacts of gender equality

There are no macroeconomic impacts of gender equality identified by the Greek literature. This gap in the relevant literature is caused by the fact that all studies examined take for granted that improvements in gender equality will have a positive impact on growth since women's talents will be used more effectively and social inequalities based on gender will be reduced. The current findings of the literature on the impact of the economic crisis on gender gaps demonstrate that this linkage between macroeconomic performance and gender equality should be further examined with the usage of sophisticated statistical methodologies. After 2010, when new structural adjustment programmes were implemented in Greece and widespread market deregulation was imposed, macroeconomic indicators continued to worsen. Karamessini argues that employment in all sectors of the Greek economy declined and unemployment rose. However, in sectors that are dominated by men, such as construction, the decline was greater than in other sectors (Karamessini, 2013). As both women's and men's employment levels deteriorate and unemployment, especially in the younger age groups, rises, gender gaps improve. This seemingly paradoxical situation led feminist scholars to reconsider existing qualitative and quantitative perspectives and frameworks (Karamessini and Ruberry, 2013). In this context, it is important to study processes of 'feminisation of the labour market', which result in the dispersion of precarious forms of employment, but also the impact of structural adjustment programmes, which promote austerity and impose severe cuts on the public sector (Karamessini and Ruberry, 2013).

Conclusions

The key methods existing in Greece to assess the economic impacts of gender equality are focused on the analysis of labour force surveys and document gender segregation and gender wage gaps in different sectors of the economy. Their key findings are the following:

- Gender wage gaps are linked in statistical analysis with gender segregation in the Greek labour market and differences in value and pay levels in 'feminised' and 'masculinised' sectors (Dermanakis, 2004, 2008; Karamessini and Ioakeimoglou, 2003, 2013).
- Gender segregation in the Greek labour market is linked to gender segregation in secondary education (Karamessini, 2010; Livanos and Pouliakas, 2012).
- Significant progress has been made in gender equality gaps after the economic crisis, but this is mainly caused by a sharp decline in men's employment and rises in men's unemployment levels, especially in certain sectors that were severely hit by recession (Matsaganis, 2012; Karamessini, 2013).
- The impact of austerity policies on gender equality should be taken into account when analysing post-2009 data on gender equality (Karamessini, 2013).

There are also some future recommendations for research:

- More statistical data and analysis is required on part-time and precarious forms of employment by sex, especially after 2009 (see EIGE, 2014).
- It is recommended to problematise the reduction of gender gaps caused by the worsening of men's situation in the labour market and the deterioration of male-dominated sectors (Karamessini, 2013).

Overall, the current situation in Greece, as it is portrayed in analyses of existing statistical indicators of gender gaps, may give the misleading impression that gender equality is improving as macroeconomic indicators worsen. This may further reinforce a prevailing tendency in EU policymaking to ignore, obscure or silence gender equality policies in periods of recession (Karamessini and Ruberry, 2013). The prevailing austerity packages that were introduced in order to deal with the sovereign debt are permeated by this logic. Developing new models and using advanced statistical methods to demonstrate the macroeconomic impacts of gender equality may shift the policy agenda to gender equality objectives during economic crises, challenging the prevailing orthodoxy.

Bibliography

Centre for Research of the University of Piraeus (2013), *Women's entrepreneurship*, III B Archimed Interreg.

Deramanakis, S. A. (2004), *The size of the 'glass ceiling' in selected sectors of the economy*, Program Equal Anromeda, Statistical Bulletin, KETHI.

Deramanakis, S. A. (2008), *Horizontal professional segregation in the Greek labour market*, Program Equal Anromeda, Statistical Bulletin, KETHI.

EIGE (2014), Gender equality and economic independence: part-time work and self employment. Review of the implementation of the Beijing Platform for Action in the EU Member States.

European Commission — Directorate-General Justice (2013), *The current situation of gender equality in Greece: Country profile*, Ronald Berger Strategy Consultants in association with Unternehmenskommunikation GmbH & Co.

Frossi, L., Kouimitzi, E. and Papadimou, C. (2001), *The gender factor and school reality in primary and secondary education*, KETHI.

Karamessini, M. (2013), 'Structural crisis and adjustment in Greece: Social regression and the challenge to gender equality', in Karamessini, M. and Rubery, J. (eds.), *Women and austerity: The economic crisis and the future for gender equality*, Routledge.

Karamessini, M. (2010), *Transition strategies and labour market integration of Greek university graduates*, GreeSE Paper 32, LSE Hellenic Observatory.

Karamessini, M. and Rubery, J. (eds.) (2013), *Women and austerity: The economic crisis and the future for gender equality*, Routledge.

Karamessini, M. and Ioakeimoglou, I. (2007), 'Determining factors of the pay gap between men and women', *Feminist Economics*, Vol. 13, No 1, pp. 31-66.

Karamessini, M. and Ioakeimoglou, I. (2003), *Determining factors of the pay gap between men and women*, KETHI.

KETHI (2013), *Gender and educational reality in Greece. Reinforcing interventions for gender equality in the Greek educational system*, KETHI.

Livanos, I. and Pouliakas, K. (2012), 'Educational segregation and the gender wage gap in Greece', *Journal of Economic Studies*, Vol. 39, No 5, pp. 554-575.

Livanos, I., Çağrı, Y. and Nuñez, I. (2009), 'Gender employment discrimination: Greece and the United Kingdom', *International Journal of Manpower*, Vol. 30, No 8, pp. 815-834.

Lyberaki, A. (2011), 'Migrant women, care work, and women's employment in Greece', *Feminist Economics*, Vol. 17, No 3, pp. 103-131.

Maratou-Alipranti, L. (2008), *Old and new professions: An approach from a gender perspective*, KETHI.

Matsaganis, M. and Leventi, C. (2011), 'The distributional impact of the crisis in Greece', in Monastiriotis, V. (ed.), *The Greek crisis in focus: Austerity, recession and paths to recovery*, LSE Hellenic Observatory Papers on Greece and Southeast Europe.

Matsaganis, M. (2012), 'Social policy in hard times: The case of Greece', *Critical Social Policy*, Vol. 32, No 3, pp. 406-421.

Stratigaki, M. (ed.) (2005), *Women's entrepreneurship, facets of property and management*, Guttenberg.

Vlachantoni, A. (2010), 'Gender and pension individualisation: The Case of Greece', *South European Society & Politics*, Vol. 15, No 2, pp. 225-245.



Spain



This factsheet provides an overview of available national evidence of the economic outcomes of gender equality in the areas of labour market participation, sharing of unpaid care work, pay gap decision-making and violence against women.

There is extensive research in Spain on the area of gender equality, and on the implications of gender differences and discrimination for a wide range of aspects. This literature, although robust in documenting the nature and implications of the gender gap, largely does so from a qualitative perspective. Where present, quantitative methods focus to a greater extent on documenting the magnitude of the gender gap and elaborating on the assessment of the cost incurred by gender inequalities. Accounts of the benefits of reducing these inequalities are identified and sometimes described in detail, but rarely quantified. As a result, rigorous macroeconomic assessments of the economic benefits of gender equality are infrequent.

The study by Fernández et al. (2015) seems particularly relevant in the Spanish context as it studies the productivity loss incurred by firms that do not realise the full potential of their workforce due to the gendered nature of the labour market. Results are presented at a regional level. Other studies also study this topic from a microeconomic perspective (Castaño Collado, 2009). They address the impact of the presence of women in corporate boards and its relation to company productivity. These studies document and evidence the link between women's participation in

leadership in these firms and the improved economic and financial results.

In addition, Azmat and González (2009) econometrically evaluated the effect of income tax on fertility and the employment of women taking care of small children (particularly in light of the 2003 income tax reform). Several studies also use regression analysis to analyse the causes and variation in gender pay gaps (de la Rica, 2008; de Cabo Serrano, 2007; Amuedo Dorantes, 2006), but do not discuss their economic consequences.

The rest of the papers considered for the purpose of this research (Bodelón González et al., 2014; De Luis Carnicer et al., 2011; Duran, 2012; Fernández Fernández et al., 2015; Villagómez, 2010) use simple quantitative methods such as descriptive statistics to measure the scale of diverse gender inequalities. When the benefits of gender equality are recognised, these rely largely on qualitative methods and review of previous literature.

A significant part of the literature on economic benefits of gender equality is produced by the Spanish Government's Institute for Women and Equal Opportunities, part of the Ministry of Health, Social Services and Equality. Significant academic work is also produced by academics both in the country (at the University of the Basque Country), or in academic institutions abroad (Queen Mary University in London, or the Aalto University in Finland).

Summary table of quantitative studies on economic benefits of gender equality

Area of gender equality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
Labour market participation and time use	Labour market participation Fertility	Households with less egalitarian attitudes have more children but lower women's labour force participation (Sevilla, 2007). The 2003 income tax reform increased fertility (by 5 %) and the employment rate (by 2 %) (Azmat, 2009).	Linear probability model Pooled and fixed effects regressions <i>Data sources:</i> Spanish Current Population Survey (<i>Encuesta de Población Activa</i> , EPA); the ISSP94 household survey.
Gender pay gap	Gender pay gap	Several studies discuss the causes and variation in gender pay gaps (de la Rica, 2008; de Cabo Serrano, 2007; Amuedo Dorantes, 2006), but do not discuss their economic consequences.	Blinder-Oxaca decomposition Pooled and fixed effects regressions <i>Data from:</i> Salary Structure Survey (<i>Encuesta de Estructura Salarial</i>).
Business leadership	Corporate performance	Positive link between the participation of women in leadership positions and corporate economic and financial profitability (Castaño Collado, 2009).	Multivariate regressions <i>Data sources:</i> National Corporate Accounts



Gender equality (cross-cutting index)	Income level	Positive correlation between gender equality in the labour market and overall income levels in the Spanish regions (Fernández et al., 2015).	Elaboration of a synthetic index of inequality and use of results in productivity functions <i>Data sources:</i> Spanish National Accounts and Spanish Regional Accounts.
Gender-based violence	Cost to the economy	Cost to the economy equivalent to 0.9 % of GDP (Villagómez, 2010).	Calculations based on simplifying assumptions (without using a macroeconomic model) <i>Data sources:</i> multiple administrative public and private sources.
Value of non-remunerated work	Value of non-remunerated work	The value of non-remunerated work is equivalent to 60 % of GDP (Duran, 2012).	Calculations based on simplifying assumptions (without using a macroeconomic model) <i>Data sources:</i> multiple administrative public and private sources.

Overview of research methods used

Two studies in Spain adopt a macroeconomic perspective in their analysis:

- (Fernández et al., 2015) elaborates on the principle that gender discrimination is inefficient from a macroeconomic point of view because companies do not maximise their production capacity. To calculate the productivity loss incurred due to gender discrimination, the authors' methodology has two separate stages. First, a synthetic index of inequality is created, covering all principal dimensions where gender inequality might affect the labour market, including education, health and empowerment. Results from this index are then included in productivity functions, to obtain the economic loss incurred due to discrimination.
- In their study of fertility and participation in the labour market, Azmat and González (2009) used a linear probability model equation to estimate the impact of a tax reform on the likelihood of giving birth and employment rates.

Castaño Colado et al. (2009) study women's participation in business and their presence in leadership positions to explore the relationship to economic and financial profitability. To do so, they use multivariate regressions to test the hypotheses that the size of the company and its board determines the presence of women. They also use contingency tables to look into the economic and financial profitability of firms in relation to the gender balance of their corporate boards.

One microeconomic study (de Cabo Serrano, 2007) uses the Blinder-Oaxaca decomposition models to quantify the gendered nature of the wage gap, accounting for several characteristics. Another study (Amuedo Dorantes, 2006) used a series of pooled and fixed effects regressions to measure the gender gap in terms of gender segregation and pay structure of full-time salaried workers in Spain. De la Rica (2008) analysed the gender gap throughout the wage distribution in Spain. Quantile regression and panel data techniques are used to estimate wage regressions.

The remaining studies about Spain (Bodelón González et al., 2014; De Luis Carnicer et al., 2011; Duran, 2012; Villagómez, 2010) considered typically either descriptive quantitative methods and/or qualitative research to address the nature of gender inequality. These are largely interviews and case studies combined with simpler data analysis to quantify the nature and magnitude of gender inequalities. They usually assess the benefits arising from increased gender equality in a qualitative way.

Data for the quantitative sections of these studies is drawn from the National Statistics Institute (INE), particularly the Survey of Salary Structure (EES), and Survey of Active Population (EPA). For broader indicators Eurostat's Statistics on Income and Living Conditions (EU SILC) are also used. Where results are presented at the regional level, data are obtained from the Spanish National Accounts (CNE) and the Spanish Regional Accounts (CRE). Wage distributions also use data from the European Community Household Panel and where comparisons are international the International Social Survey Programme (1994) is used. National corporate accounts were also considered to look at financial and economic results, through which profitability was derived. Where quantitative analysis relies on legal documents the

sources are the Regional Equality Plans, and they consist of number counts of the topics and issues covered. Finally, some studies also conducted primary data collection.

Results are generally presented for all Spanish women at national level. Fernández et al., however, draw their results at a regional level, and therefore women are grouped according to their geographical location.

How does gender equality affect economic outcomes?

From a microeconomic perspective on the Spanish context, de Cabo Serrano (2007) conducted a detailed study that quantified the gender effects of the pay gap. To do so, the study accounted for differences in personal characteristics (such as age and educational attainment), professional characteristics (such as type of occupation and years of experience), professional environment (such as field of work and public or private employment), and lastly the characteristics of the positions (such as level of responsibility or flexibility). The author concluded that, all else equal, there is a portion of the pay differences that is not justified and that can be attributed only to gender. Specifically, in Spain, women earn on average 17 % less per hour than men, for reasons strictly linked to gender.

Amuedo Dorantes (2006) evidenced that gender segregation — where women work particularly in low-paying establishments/jobs — accounted for a sizeable and growing fraction of the gender pay gap. More precisely this study concluded that over the course of 7 years (1995-2002), the raw gender pay gap decreased, yet once workers' human capital, job characteristics, idiosyncrasies of the pay structure and women's segregation into low-paying industries, occupations, establishments and job cells were accounted for, women still earned about 14 % less than their male counterparts.

De la Rica et al (2008) analysed the gender pay gap throughout the wage distribution in Spain. They found that in contrast with the steep increasing pattern found in other countries, where the gap was larger at the top end of the income distribution, the evolution of the Spanish gender gap was flatter. When analysing this in greater detail they concluded that the evolution of the pay gap was dependent on the education level of the workers. For highly educated workers, the gap increased along the wage distribution. However, for less educated workers, the gap decreased. This, they argued, could be explained by statistical discrimination exerted by employers in countries where less educated women have low participation rates.

Relatedly, Sevilla (2007) addressed the cross-country correlation between women's labour force participation and fertility in several countries, including Spain, and concluded that within countries, households with less egalitarian attitudes have more children but lower women's labour force participation. However, consistent with the presence of social externalities, countries with less egalitarian views have lower average fertility.

Some macroeconomic outcomes of gender equality are usually identified in the reviewed articles about Spain, but they are rarely quantified or monetised. Increasing the participation of women in the labour market is perceived as one of the key ways in which gender equality can contribute to the economy, more precisely through its impact on maximising productivity functions.

Fernández et al. (2015) find that there is a positive correlation between equality in the labour market and overall income levels in the Spanish regions. They also demonstrate how the increased cost of the inefficiency in women's employment (in terms of utility loss) also results in decreased employability for women. They are therefore able to demonstrate that the cost of gender discrimination reduces women's employability. Since the discrimination index of this study is a composite indicator of gender discrimination in the labour market, health, education and empowerment dimensions, results are therefore applicable to those fields.

Likewise, Castaño Collado et al. (2009) identify a significant positive link between the participation of women in leadership positions and corporate economic and financial profitability. However, they do not calculate the impact of increasing the number of women on company boards. While their research indicated the existence of a positive relationship between the presence of women in positions of responsibility and business profitability, the authors point out that this relationship may be endogenous. It may be that rather than women being the cause of better performance, women get selected as leaders by companies that are already the best performers on the market. However, women in positions of leadership in Spanish companies are in general better educated than their men counterparts, which seems to imply the former rather than the latter case.

Overall, research using rigorous statistical analysis is largely limited to exploring the consequences of women's participation in the labour market and in leadership roles on the profitability of firms. There are also some more qualitative studies (International Centre for Work and Family at IESE on Reconciling Professional Life and Personal and CEDE) that claim that implementation of policies that facilitate the participation of women in the labour market 'reduce[s] turnover, absenteeism, stress, anxiety and depression among



employees, increase[s] their productivity, motivation, commitment and job satisfaction and generally improve[s] labour relations'. These benefits are unfortunately not quantified or discussed any further.

Key macroeconomic impacts of gender equality

The main study addressing macroeconomic impacts in Spain (Fernández et al., 2015) elaborates on the principle that gender discrimination is inefficient from a macroeconomic point of view because companies do not maximise the production capacity of their workforce. In that sense, the authors find that discrimination leads to a loss of income, and they find these costs to be 'quite substantial'. By determining the productivity function and discounting from it the cost of discrimination, the authors are able to identify the economic loss (as a factor of productivity loss) represented by discrimination. Unfortunately, further quantification of these costs is not detailed.

The study also analyses the situation in each of the regions in Spain over time by comparing 2006 gender gaps to 2010 gender gaps. It does so by comparing the gender discrimination summarised in a composite index (which captures labour market, education, health and empowerment gender differences). However, it does not explore the nature of these discriminations and therefore it does not capture the potential causes or effects of these discriminations (or the lack thereof) to the broader economy.

Lastly, the study evidences the correlation between discrimination and productivity in each of the Spanish regions. In doing so it was able to establish that where discrimination had decreased, productivity had increased. This was calculated in the context of their composite index, and extrapolation to other units is not present. Results are not extrapolated further than to the regional level.

Research at the regional level (Junta de Andalucía) also concludes that gender discrimination has a negative impact on regional productivity, and therefore on the overall competitiveness, but does not detail that statement further.

In addition, there is one study in Andalusia (Villagómez, 2010) that quantified the costs to the regional economy of gender-based violence. It estimated that the costs were equivalent to 0.9 % of the regional GDP, which was equivalent to EUR 113 per capita per year. The direct annual costs per victim (women and their children) were estimated at EUR 835, and the direct cost per household was estimated to be EUR 2 764 per year.

A further study (Duran, 2012) analyses the impact of non-remunerated work on the Spanish economy. It describes the impact in extensive detail, including the fact that non-remunerated work is more frequently carried out by women. This paper concludes that in 2002 the value of non-remunerated work to the Spanish economy was equivalent to 60 % of GDP. Unfortunately, the gender breakdown of this figure is not provided.

Azmat and González (2009) evaluated the effect of income tax on fertility and the employment of mothers with small children (particularly in light of the 2003 income tax reform). The reform introduced a tax credit for working mothers with children under the age of three, while also increasing child deductions for all households with children. The results evidenced that the combined reforms significantly increased both fertility (by almost 5 %) and the employment rate of mothers with children under three (by 2 %). However, they also found that the child deductions affect mothers' employment negatively, which implies that the 2003 tax credit would have increased employment even more (up 5 %) in the absence of the change in child deductions.

Conclusions

Spanish research on economic outcomes of gender inequality is more conclusive at the microeconomic level, where evidence is found of the link between women's presence on company boards and the company's economic and financial profitability. From a macroeconomic perspective, the studies covered address:

- The connection between the gender inequalities (in the labour market, health, education and empowerment) and potential productivity loss. A reduction in gender discrimination is generally found to be associated with an increase in the levels of productivity (Fernández Fernández et al., 2015).
- The impact of a tax credit policy for working mothers on fertility and employment rates, which was found to be positive and significant (Azmat, 2009).
- Finally, flexible working policies are identified as an enabler for women's participation in the labour market, although those results are obtained qualitatively (Junta de Andalucía, 2013).

Bibliography

Amuedo Dorantes, C. (2006), 'The Role of Segregation and Pay Structure on the Gender Wage Gap: Evidence from Matched Employer-Employee Data for Spain', *The B.E. Journal of Economic Analysis & Policy*, Vol. 5, No 1.

Azmat, G. and Gonzalez, L. (2009), *Targeting Fertility and Female Participation through the Income Tax*.

Bodelón González, E. et al. (2014), *El impacto de los planes de igualdad en las empresas*, Estudios e Investigaciones Insituto de la Mujer Exp. 4/09.

Castaño, C., Laffarga, J., Iglesias, C., de Fuentes, P., Martín, J., Llorente, R., Charlo, M., Giner, Y., Vázquez, S., Núñez, M. and Martínez, J. (2009), *Mujeres y poder empresarial en España*, Instituto de la Mujer, Madrid.

De Cabo Serrano (2007), *Diferencia y discriminación salarial por razón de sexo*, Estudios e Investigaciones Insituto de la Mujer. Serie Estudios n.100.

De la Rica, S. et al. (2008), 'Ceilings or floors? Gender wage gaps by education in Spain', *Journal of Population Economics*, Vol. 21, No 3, pp. 751-776.

De Luis Carnicer, P. et al. (2011), *Los recursos y resultados empresariales: Una perspectiva de género*, Estudios e Investigaciones Insituto de la Mujer Ref: 38/06.

De Luis Carnicer, P. et al. (2011), *La contribución diferencial de la mujer en los resultados de las empresas*, Estudios e Investigaciones Insituto de la Mujer Ref: 38/06.

Duran, M. (2012), *La contribución del trabajo no remunerado a la economía española*, Fundación BBVA.

Fernández Fernández, M. et al. (2015), *Impacto macroeconómico de la discriminación de género*, Estudios e Investigaciones Insituto de la Mujer Exp. 205/12.

Junta de Andalucía (2013), *Pacto Andaluz por la Igualdad de Género*, Insituto Andaluz de la Mujer, Consejería de la Presidencia e Igualdad, Consejo Andaluz de Participación de las Mujeres.

Villagómez, E. (2010), *The economic and social costs of domestic violence against women in Andalusia*, UNECE Work Session on Gender Statistics (Geneva, Switzerland, 26-28 April 2010), Working Paper 8, 8 April 2010.



France

This factsheet provides an overview of available national evidence of the economic outcomes of gender equality in the areas of labour market participation, pay gap, decision-making and violence against women.

A couple of studies in France aim to assess the economic impacts of gender inequality. Two studies look at the impact of public policies aiming to encourage fertility on women's activity rates and salaries (Piketty, 2003; Joseh et al., 2012). Another study by Breda (2015) focuses on the economic link between feminisation and firms' performance. Two other studies try to estimate the total costs of intimate partner violence (Begon, 2013; Albagly et al., 2014).

There are additional studies which focus on the gender salary gap. Meurs et al. (2006) examine the components of this wage gap and three additional econometric studies look at wage gaps and their determinants in France (Daly et al., 2006; Meurs et al., 2008; Bensidoun et al., 2015).

The Observatoire des Inégalités (2015) provides key statistical facts about gender inequality in France.

Another four studies explore the economic consequences of gender equality by qualitative analysis. Two of them focus on the labour market dimension of gender equality (Lavictoire et al., 2005; IMS, 2013), while the other two also look at other areas of gender equality (including education, leadership and time use — Lepinard et al., 2015; Glaude, 2006).

Summary table of quantitative studies on economic benefits of gender equality

Area of gender equality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
Labour market participation	Employment Fertility	The 1994 extension of the French Parental Education Benefit caused a minimum of 150 000 women to withdraw from the labour market. The policy induced a moderate increase in fertility: between 20 and 30 % of the total increase in fertility between 1994 and 2001 can be explained by the reform (Piketty, 2003).	Difference-in-difference approach <i>Data sources:</i> French National Statistics Institute (INSEE) job and family surveys.
	Employment Career interruption Salary	The Early Childhood Benefit reform did not have an impact on the reduction of mothers' professional activity: 1 year after the birth, 96.4 % of women receiving the allocation were working compared to 94.5 % of those who were not affected by the policy (the difference is not significant). However, the reform had a negative impact on mothers' salaries: 2 years after the birth, women receiving the allocation had a salary of EUR 1 341 while those who did not received EUR 1 440 (Joseh et al., 2012).	Matching method <i>Data sources:</i> French National Fund for Family Allowances (CNAF) and the Centre for Study and Research on Qualifications (CEREQ).
	Return on investment of measures	No evidence of macroeconomic impact. At micro-economic level: employers get an 8 % return on investment in measures to support parents (IMS, 2013). Absence and disturbed work due to difficulties with childcare cost firms between EUR 800 and EUR 1 250 per year for each parent-employee (IMS, 2013).	Cost-benefit analysis <i>Sources:</i> Cost and benefit data from multiple administrative public and private sources (see IMS, 2013, for details).



Leadership	Profitability/ productivity of firms Profit per employee Returns on assets Returns on investments	No evidence of macroeconomic impact. At micro-economic level: No link exists between the percentage of women employed within businesses and the economic and financial performance of firms (Breda, 2015). However, the larger the proportion of women employed in a firm, the smaller the salary satisfaction and the greater the training satisfaction within this business (Breda, 2015).	OLS model with three different estimation strategies: (1) inter-firm variations, (2) temporal intra-firm variations and (3) intra-firm and interprofessional group variations <i>Data sources:</i> French Labour Ministry (DARES).
Gender pay gap	Gender pay gap	No evidence of macroeconomic impact. Studies examine the main components of the gross difference in salary (Meurs et al., 2006). Other studies look at the determinants of the gender wage gap (Daly et al., 2006; Bensidoun et al., 2015).	Micro-econometric analysis <i>Data sources:</i> French National Statistics Institute (job survey).
Violence against women	Costs to the economy	The costs of domestic violence vary from EUR 2.5 billion per annum (Begon, 2013) to EUR 3.6 billion per annum (Albagly et al., 2014).	Cost analysis <i>Data sources:</i> cost data from multiple administrative public and private sources.

Overview of research methods used

There are no studies in France that focus on macroeconomic modelling of the economic impacts of gender equality. The studies that produce estimates of macroeconomic impacts of gender equality typically rely on simple extrapolations of findings from microeconomic analysis.

Three of the reviewed studies use advanced micro-econometric analysis to assess the economic impacts of public policies linked with gender equality issues. Piketty (2003) works with data (e.g. on birth rates or women's employment rates) from the French National Statistics Institute's (INSEE) job and family surveys. The author uses a difference-in-difference approach to estimate the impact of the extension of the French Parental Education Benefit. Joseh et al. (2012) work with data (e.g. on women's employment and career interruption rates or average salary) from the French National Fund for Family Allowances (CNAF) and from the Centre for Study and Research on Qualifications (CEREQ). The authors use a matching method, to compare (i) mothers who have benefited from the reform of the Early Childhood Benefit with (ii) women presenting similar characteristics but who gave birth before the reform. Breda (2015) works with data (e.g. productivity at work, profit per employee, returns on assets or investments) from the French Labour Ministry (DARES). To assess the link between feminisation (i.e. the percentage of women employed within businesses) and firms' performance, he uses an OLS model and examines three different estimation strategies: (i) inter-firm variations,

(ii) temporal intra-firm variations and (iii) intra-firm and interprofessional group variations. However, the quality of his results is hampered by the low availability of data and the small size of samples.

Three studies use econometric methods to decompose the gender wage gap and understand its determinants. Daly et al. (2006) make a cross-country comparison of the gender pay gap in four countries (Australia, Britain, France and Japan) to understand the impact of the institutional environment. The authors decompose the gender wage differential into (i) a part attributable to differences in human capital endowments and (ii) a part attributable to the rewards for those endowments. This method indicates how much of the difference in the gender wage gap between countries is explained by the relative human capital endowments of women and men in each country and how much by differences in the rewards for these endowments. Meurs et al. (2008) want to understand the influence of having children in the overall gender wage gap. They decompose the overall wage gap into (i) a gender wage gap between women and men who have never taken time out of the labour market and (ii) an 'interruption' wage gap between women without and women with labour market interruptions. Finally, Bensidoun et al. (2015) are interested in the impact of non-cognitive skills. They decompose the gender wage gap into (i) an intra-occupational wage differential and (ii) an inter-occupational wage differential. The determinants they use include: age, education, professional

characteristics, working hours, family characteristics and non-cognitive characteristics.

Two additional studies use estimation methods to evaluate the cost of violence against women. The remaining studies typically use simple quantitative analysis mixed with qualitative research to assess economic benefits of gender equality.

Overall, the studies reviewed produce relatively simple estimates of economic impacts of gender equality in France, and typically focus on one key impact and assume that this impact will not affect other parts of the economy. For example, when examining the impact of public policies designed to promote fertility, studies look at the effect on women's employment rate and salary, but they do not consider how these policies affect firms' productivity or investment.

How does gender equality affect economic outcomes?

A study published by the INSEE (Glaude, 2006) shows that French parents have fewer expectations in terms of educational achievements for their daughters than for their sons. Furthermore, while girls tend to perform better at school, they also tend to choose less profitable educational paths than boys.

Despite gender quotas, politics is dominated by men, with men representing 73.3 % of deputies in the French Assemblée Nationale in 2012 (Observatoire des Inégalités, 2015). France has adopted gender parity rules in the private labour market as well. Quotas appear to be efficient when they entail legal sanctions (Lepinard et al., 2015). Another study shows that the main motivation encouraging firms to undertake feminisation measures consists in their marketing value: communicating around gender equality can significantly improve the image of firms (Lavictoire et al., 2005).

According to the Observatoire des Inégalités (2015), French women earn 24 % less than men. The gross difference in salary has three main components (Meurs et al., 2006):

- Differences in characteristics: e.g. women do not have the same responsibilities in jobs as men (only 15 % of SME directors are women, and 98 % of secretaries are women ⁽³⁸⁾; women work more frequently part-time than men (80 % of part-time job are occupied by

women ⁽³⁹⁾; and women have less professional experience. Around three quarters of the difference in salary is explained by differences in characteristics.

- Salary discrimination: employers do not respect the rule 'same job, same salary'. For the exact same job, French men are paid 7 % more than women.
- Selection effect: a proportion of women and men do not seek to enter the job market. However, this effect represents only a marginal role in salary differences.

Other studies look at the determinants of the gender wage gap. According to Daly et al. (2006), the institutional environment is an important factor explaining the gender wage gap in France. Indeed, France is a very centralised and co-ordinated country in terms of collective bargaining structures and the authors found that it is the countries with the most decentralised and uncoordinated wage bargaining systems that have the smallest gender wage gaps. Meurs et al. (2008) find that while the wage gap between women and men who have never interrupted their participation in the labour force is entirely 'unexplained', the wage gap between women who have never interrupted and women who have had interruptions is entirely 'explained' by this interruption. Finally, Bensidoun et al. (2015) show the importance of non-cognitive skills, such as risk attitude, optimism related to professional future and career preferences (i.e. pursue a career, find a stable job or manage work-life balance). The authors find that non-cognitive skills represent 6.3 % of the total gender wage gap (almost twice as much as experience), but that still 60 % of the gap remains unexplained.

In addition to differences in salary, a study for the EU (Lepinard et al., 2015) looks at other reasons why women's participation is limited in the French labour market. These reasons include the following: discrimination due to pregnancy is widespread but undetected and rarely sanctioned; actors in the business sector are not familiar with the emerging anti-discrimination law and jurisprudence; policies to fight poverty tend to reproduce gender inequalities; reforms to the pension system have tended to increase gender inequalities; fiscal policy does not support women's economic independence. However, this study does not analyse the impact of gender inequality on the French economy.

Another study (Glaude, 2006) observes that changes which occurred in the second half of the 20th century (e.g. increased female participation in the labour market, women's increased level of education) have not had a major

⁽³⁸⁾ See <http://www.chartediversite.lu/sites/default/files/guide-egalite-professionnelle.pdf>

⁽³⁹⁾ Ibid.



economic effect in terms of labour, career, salary or pension equality. According to Glaude, the main reason behind this is that there is in France a predetermined conception of the role of women and men in society.

Other studies note the importance of gender stereotypes in France: only 20 % of domestic work is undertaken by men in France (IMS, 2013). A study for the EU (Lepinard et al., 2015) remarks that domestic work and childcare continues to be associated with women, and that public policies reinforce the traditional division of family responsibilities. The study further notes that family policies can lead to the reduction of mothers' working time and their withdrawal from the labour market, with a particularly strong impact on less educated women. In addition, policies for elderly dependent people are insufficient and women who perform this care work are often unpaid.

Key macroeconomic impacts of gender equality

Two studies examine the impact of public policy measures designed to encourage couples in France to have children. The study by Piketty (2003) estimates the elasticity of women's labour market participation and assesses the impact of the 1994 extension of the French Parental Education Benefit (APE): this reform allowed women to take a break from work after the birth of their second child. According to Piketty, the 1994 extension caused a minimum of 150 000 women (mainly low-qualified mothers) to withdraw from the labour market. The activity rate for women with at least one child aged less than three decreased dramatically in the 3 years following the extension (from 58.7 % in 1994 to 47.5 % in 1997). The policy had an indirect impact on the French economy as it induced a moderate increase in fertility: between 20 and 30 % of the total increase in fertility between 1994 and 2001 can be explained by the reform.

Joseh et al. (2012) look at the extent to which mothers' careers were affected in 2004 by the reform of the Early Childhood Benefit (PAJE), which extended financial benefits provided for the birth of the first child and allowed parents to take a total or partial break from work for a short period after the birth. Results show that the PAJE reform did not have an impact on the reduction of mothers' professional activity: 1 year after the birth, 96.4 % of women receiving the allocation were working compared to 94.5 % of those who were not affected by the policy (the difference is not significant). However, the reform had a negative impact on mothers' salaries: 2 years after the birth, women receiving the allocation had a salary of EUR 1 341 while those who did not received EUR 1 440 (the difference is significant at 0.01 level).

Breda (2015) focuses on empirically assessing the links between gender equality and firms' performance. The analysis shows that there is no link between feminisation (i.e. the percentage of women employed within businesses) and the economic and financial performance of firms. Indeed, in 2011 there was a positive correlation between the proportion of women employed and the profitability/productivity of firms, but the correlation was small and non-significant. The links between gender equality and the social performance of firms was greater: the larger the proportion of women employed in a firm, the smaller the salary satisfaction and the greater the training satisfaction within this business.

Another study shows that employers get an 8 % return on investment in measures to support parents (IMS, 2013). This is partly due to the fact that mothers are less likely to be absent from work, and more likely to return to work after the birth of their child (allowing employers to save on recruitment costs). Absence and disturbed work due to difficulties with childcare cost firms between EUR 800 and EUR 1 250 per year for each parent-employee (IMS, 2013).

There are also potential savings from reduction of violence against women. Begon (2013) finds that costs of intimate partner violence amount to around EUR 2.5 billion per annum. Albagly et al. (2014) use a different approach to quantify these costs, which they estimate at around EUR 3.6 billion in 2012 (i.e. EUR 56 per capita each year), out of which:

- EUR 290 million was associated with medical costs;
- EUR 256 million was associated with non-medical costs (e.g. justice and police costs);
- EUR 229 million was associated with social consequences (e.g. social measures costs);
- EUR 1 379 million was associated with economic cost (e.g. loss of production due to deaths, imprisonment and absenteeism);
- EUR 1 032 million was associated with costs of human prejudice;
- EUR 422 million was associated with the cost of the impact on children.

The available research did not discuss in detail how outcomes of gender inequality affects sustainability of labour market outcomes and public budgets. Similarly, it did not discuss if outcomes of gender inequality disproportionately affect certain vulnerable groups of population, such as ethnic minorities.

Conclusions

Gender equality policies have been developed since the 1970s in France, with the most recent important addition consisting of the Law on Real Gender Equality approved in 2014. These policies now represent a consistent and comprehensive legal framework that covers almost all domains of social, political and economic life. In 2012, France was ranked ninth out of the 28 European Member States by EIGE (with a score of 55.7/100 for the Gender Equality Index, compared to an average of 52.9/100). In 2014, France moved up from 45th place to 16th place in the World Economic Forum ranking in terms of gender equality (out of 142 countries).

However, salary inequality is still an important issue (according to the most recent Eurostat data, French women earned on average 15.3 % less than men in 2014⁽⁴⁰⁾ and this is reflected in available research that often focuses on wage gaps and their determinants (Meurs et al. 2006; Daly et al., 2006; Meurs et al., 2008; Bensidoun et al, 2015). These sources identify several causes of wage gaps including institutional environment, interruptions due to child births, occupational segregation, and differences in job preferences.

Increasing the labour market participation of women is perceived as one of the key channels through which gender equality could affect national macroeconomic performance. While there is no purely national research on this issue, an international study that covers a broad range of countries including France suggests that the French GDP would grow by 7 % if women's employment rate was equal to men's employment rate (Aguirre et al., 2012).

Bibliography

Aguirre, D., Hoteit, L., Rupp, C. and Sabbagh, K. (2012), *Empowering the third billion: Women and the world of work in 2012*.

Albagly, M., Cavalin, C., Mugnier C. and Nectoux, M. (2014), *Violences au sein du couple et violences sexuelles les principales données*, Ministère des Affaires Sociales, de la Santé et des Droits des Femmes, *La lettre de l'Observatoire National des violences faites aux femmes*, No 4.

Begon, R. (2013), *L'estimation du cout social et financier de la violence conjugale en Europe: seize milliards d'EUR par an*, Collectif contre les Violences Familiales et l'Exclusion.

Bensidoun, I. and Trancart, D. (2015), *The Gender Wage Gap in France: The Role of Non-Cognitive Characteristics*.

Breda, T. (2015), *Féminisation et performances économiques et sociales des entreprises*, Institut des Politiques Publiques, Report No 12.

Daly, A., Kawaguchi, A., Meng, X. and Mumford, K. (2006), *The Gender Wage Gap in Four Countries*.

EIGE (2015), *Gender Equality Index 2015: Measuring gender equality in the European Union 2005-2012*.

European Commission (2014), *Tackling the gender pay gap in the European Union*.

Glaude, M. (2006), 'L'égalité entre les hommes et les femmes, entre avancées et résistances', *INSEE économie et statistique* No 398-399.

IMS (2013), *Guide pratique — L'Egalite professionnelle femmes-hommes*.

Joseh, O., Pailhé, A., Recotillet, I. and Solaz, A. (2012), 'Faut-il tourner la PAJE? L'impact de la Prestation d'Accueil du Jeune Enfant sur le parcours professionnel des mères', *Formation emploi*, Vol. 118, pp. 103-123.

Lavictoire, O., Peluso, L., Vivant, P. and Vullien, C. (2005), *L'égalité professionnelle hommes-femmes: contrainte légale ou facteur de performances?*

Lépinard, E. and Lieber, M. (2015), *The Policy on Gender Equality in France*, DG for Internal Policies.

Meurs, D. and Ponthieux, S. (2006), 'L'écart des salaires entre les femmes et les hommes peut-il encore baisser?', *INSEE économie et statistique* No 398-399.

Meurs, D., Pailhe, A. and Ponthieux, S. (2008), *How much does it cost to stay at home? Career interruptions and the gender wage gap in France*.

Observatoire des Inégalités (2015), *Les inégalités entre les femmes et les hommes en France*.

Piketty, T. (2003), *L'impact de l'allocation parentale d'éducation sur l'activité féminine et la fécondité, 1982-2002*, EHESS and CEPREMAP (URA 928), No 2003-09.

⁽⁴⁰⁾ Unadjusted wage gap in construction, industry and services.



Croatia



This factsheet provides an overview of available national evidence of the economic outcomes of gender equality in the areas of labour market participation, and pay gap.

Several studies address the potential causes and economic impacts of gender equality in Croatia (e.g. Nestić, 2010; Dobrotić et al., 2010; Pravobraniteljica za ravnopravnost spolova, 2015). In a quantitative study Nestić (2010) analyses the effects of various labour market characteristics, including the effects of having children on the gender wage gap. Another quantitative study analyses the discrimination against women in the labour market, without assessing the economic consequences of this discrimination (Galić and Nikodem, 2009).

One recent study has been conducted by the Ombudsperson for Gender Equality (Pravobraniteljica za ravnopravnost spolova, 2015), an independent body for combating discrimination in the area of gender equality in Croatia ⁽⁴¹⁾. The quantitative study analyses the representation of women and men in leadership positions in Croatian companies, showing different trends in companies depending on their legal form. An earlier study conducted by the ombudsperson assessed the discrimination against pregnant women and mothers of young children in the Croatian labour market (Pravobraniteljica za ravnopravnost spolova, 2012). In their study on the employment of mothers, Dobrotić et al. (2010) analyse the effect of access to childcare facilities on the employment of mothers in Croatia.

Summary table of quantitative studies on economic benefits of gender equality

Area of gender equality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
Labour market participation	Employment	Dobrotić et al. (2010) identified a strong correlation between childcare services and the employment rate of women as well as large regional differences in both in Croatia, suggesting that the current organisation of childcare services in the country negatively affects the employment rate of women in several regions.	Regression analysis to estimate the correlation between childcare facilities and the employment of women <i>Data sources:</i> national data on employment of women in Croatia and the availability of childcare facilities.
Gender pay gap	Gender pay gap	There is one study in Croatia that analyses different possible causes of gender pay gaps (Nestić, 2010). This study does not discuss impacts of gender pay gaps on macroeconomic performance.	Micro-econometric analysis <i>Data sources:</i> Croatian Labour Force Survey for activity status, gender, work experience, employer job characteristics and monthly wages.

Overview of research methods used

No study in Croatia uses rigorous macroeconomic modelling on the economic impacts of gender equality. In fact the studies do not provide estimates of macroeconomic impacts of gender equality, but rather evaluations of the consequences of the (in)equality experienced by women, mainly in the Croatian labour market.

In his study on the gender pay gap, Nestić (2010) uses the quantile regression technique to estimate the conditional wage gap between women and men in Croatia. He employs Machado-Mata (2005) decomposition analysis to extract the part of the gap that is due to differing rewards for observed productive factors for women and men. In the study Nestić (2010) also uses modelling to estimate the change in the gender pay gap by changing variables such as age and experience. However, the study makes no estimates on the impact of gender equality. Dobrotić et al. (2010) use regression models to estimate the correlation between childcare facilities and the employment of

women, using national data on employment of women in Croatia and the availability of childcare facilities.

Galić and Nikodem (2009) assess the discrimination against women during job searching through descriptive analysis of survey data. In addition, the studies conducted by the Ombudsperson for Gender Equality (2012, 2015) include simple quantitative analysis of survey data.

Overall, the studies (including Dobrotić et al., 2010; Galić and Nikodem, 2009; Ombudsperson for Gender Equality, 2012, 2015) rely on simple estimates of the impact of gender equality, focusing mainly on ways of enhancing the participation of women in the labour market through e.g. better access of childcare facilities. Thus no broader picture of the macroeconomic impact of these changes is given.

⁽⁴¹⁾ For more information see the homepage of the ombudsperson, available at: <http://www.prs.hr/index.php/english>



The data sources include the Croatian Labour Force Survey for activity status, gender, work experience, employer job characteristics and monthly wages (e.g. Nestić, 2010), as well as data from surveys and other national sources of data.

How does gender equality affect economic outcomes?

Increasing women's labour market participation and minimising the gender pay gap as well as discrimination against women in the labour market are the central themes in the analysed studies and are seen as key ways to enhance gender equality in Croatian society.

The employment rate of women aged 20 to 64 in Croatia was 55.8 % in 2015, which was about 10 percentage points lower than the men's employment rate (65.2 % in 2015 according to Eurostat). Regional differences in employment rates are quite high, and childcare facilities play an important role in maintaining and enhancing the labour market participation of women at regional level (Dobrotić et al., 2010).

In Croatia access to childcare facilities is favourable for parents who are already active in the labour market, while access for unemployed parents is restricted. According to the Act on Preschool Care and Education (*Zakon o predškolskom odgoju i naobrazbi, Official Gazette 10/97, 107/07*) the working hours of childcare facilities have to be in line with the needs of children as well as parents who are employed. According to the authors, these regulations favour children whose parents are employed, and they explicitly lead to restrictions for children whose parents (or one parent) are unemployed. Furthermore, the regulations concerning the financing of the childcare facilities favour employed parents, as parents pay a certain contribution for the childcare facilities. The amount as laid out in the act differs between the different regions, whereby the regional governments have discretion about how much they fund the childcare facilities. This adversely affects families where one or both parents are unemployed, especially in poorer regions where the regional governments provide a smaller subsidy. Dobrotić et al. (2010) suggest that such an organisation of the childcare facilities has a negative influence on the participation of women in the labour market. In particular, the lack of childcare facilities in some areas of the country can be linked to a lower labour market participation of women from these areas. The authors recommend that in order to increase the activity of mothers in the labour market, affordable care services for their children should be available (Dobrotić et al., 2010).

However, labour market activation is also connected with persistent labour market discrimination against women, especially women with young children (Pravobraniteljica za

ravnopravnost spolova, 2012; Galić and Nikodem, 2009). In an empirical investigation of 1 017 women, Galić and Nikodem (2009) found that over half of these women were discriminated against during their job search on the basis of their gender. A further study by the Ombudsperson for Gender Equality (2012) revealed structural discrimination against pregnant women and mothers in the labour market. The study was conducted via a countrywide survey of over 900 pregnant women and mothers. The results showed a widespread labour market discrimination against women, either due to pregnancy or to unequal distribution of childcare between women and men (leaving women as the primary carer responsible for childcare). The study recommends a strengthening of the laws protecting the interests of pregnant women and mothers in the labour market.

In addition, the relatively generous entitlements for maternity leave and child-related sick leave seem to have an influence on the wage prospects of women in Croatia, as shown in the study by Nestić (2010). Most women take leave of 1 year or more after giving birth. This career break due to childbearing may be connected with a loss of 'human capital' in the labour market. Furthermore, after returning from maternity leave, women might choose jobs that have a more family-friendly environment, but require also less continued skills upgrading, at the expense of lower wages. On the other side, employers might be less willing to hire women and provide them with higher wages or promotion possibilities, as they might not expect career commitment from women after returning from parental leave. In Croatia mothers might be worse off in the labour market due to their extended absence from work during parental leave. These factors contribute to the pay discrimination against women with children in the labour market, especially in the private sector (compared to non-mothers and men) (Nestić, 2010). Moreover, in his study analysing the gender wage gap in Croatia, Nestić (2010) provides evidence that although women are often better educated than men, they face lower returns to education. This is particularly the case for higher levels of education (i.e. post-secondary). According to the Croatian Bureau of Statistics (2015), the difference in gross salaries between women and men amounted to 10 % in 2013.

Finally, a recent study by the Ombudsperson for Gender Equality (2015) revealed a discrimination against women not only in terms of payment, but also in terms of access to leadership positions, especially in the private sector in Croatia. Despite the fact that the proportion of highly educated women in the labour market is greater than the proportion of men, and that the proportion of highly educated women in the companies that participated in the survey is greater than the percentage of men, the situation is reversed in the leadership positions of the companies. The division of tasks at managerial level according to traditional gender roles is

in accordance with the horizontal segregation of the labour market. The study recommends increasing awareness of equal access to leadership positions in Croatian companies (Pravobraniteljica za ravnopravnost spolova, 2015).

Key macroeconomic impacts of gender equality

Nestić (2010) identifies that gender differences in education and experience, in combination with differing rewards, contribute to widening the gender wage gap. In the analysed Labour Force Survey data of 2008, a gender pay gap of around 22 % was identified due to differing rewards of labour market characteristics. The study showed a larger gender pay gap for women with children. Child day care schemes in Croatia are underdeveloped; most of them have relatively short opening hours, which is a limiting factor for the labour market participation of women in Croatia. Nestić (2010) argues that changes in family policies lead to a higher participation of women in the labour market. The current parental leave schemes might have negative effects on wages for all potential mothers. Their potential absence from work puts all young women in a disadvantageous position compared to men. The author concludes that only policies that foster a more equitable sharing of childcare responsibilities, including taking up parental leave, could lead to a significant reduction of the part of the pay gap women experience due to child-related absence from work.

The study on childcare services and the participation of women in the labour market by Dobrotić et al. (2010) identified a strong correlation between child care services and the employment rate of women as well as large regional differences in both in Croatia, suggesting that the current organisation of childcare services in the country negatively affects the employment rate of women in several regions. The study shows a positive impact on the GDP in the country due to activities of women in the labour market and the availability of childcare facilities.

The further analysed studies do not indicate clear macroeconomic impacts of gender equality in Croatia.

Conclusions

The analysed studies focus on increasing the participation of women in the Croatian labour market and minimising the gender pay gap either through more accessible childcare facilities or through removal of discrimination.

Accessible childcare services are seen as crucial for enabling uninterrupted career flow for women with children in Croatia (Nestić, 2010; Dobrotić et al., 2010). There are high regional

differences in Croatia in both childcare coverage and participation of women in the labour market. According to Dobrotić et al. (2010), the current organisation of the childcare system in Croatia fails to provide equal access to care services for all women and does not foster employment of mothers.

The discrimination against women in the Croatian labour market seems to be prevalent and is seen as a barrier to their employment as well as advancement in their career (Pravobraniteljica za ravnopravnost spolova, 2012, 2015). The analysed studies recommend awareness-raising at company level as well as a better monitoring of the implementation of already existing laws and policies at national level. These recommendations are part of the National Policy for Gender Equality 2011-2015 and the Gender Equality Act (*Official Gazette*, No 82/08).

Bibliography

Croatian Bureau of Statistics (2015), *Women and Men in Croatia 2015*, Zagreb.

Dobrotić, I., Matković, T. and Baran, J. (2010), 'Zaposlenost žena i pristup sustavu predškolske skrbi za djecu u Hrvatskoj: postoji li veza?' (Female employment and access to childcare services in Croatia: Is there a connection?), *Revija za socijalnu politiku*, Vol. 17, No 3: pp. 363-385.

Galić, B. and Nikodem, K. (2009), 'Neki aspekti diskriminacije žena pri zapošljavanju u Republici Hrvatskoj' (Aspects of discrimination in female employment in the Republic of Croatia), in Franičević, V. and Puljz, V. (eds.), *Rad u Hrvatskoj: pred izazovima budućnosti*, Centar za demokraciju i pravo Miko Tripalo, Zagreb, pp. 107-130.

Nestić, D. (2010), 'The Gender Wage Gap in Croatia — Estimating the Impact of Differing Rewards by Means of Counterfactual Distributions', *Croatian Economic Survey*, Vol. 12, No 1, pp. 83-119.

Pravobraniteljica za ravnopravnost spolova (2015), *Istraživanja o zastupljenosti žena i muškaraca na upravljačkim pozicijama u trgovačkim društvima* (Research on the representation of women and men in leadership positions in companies), available at: <http://www.prs.hr/index.php/analize-i-istraživanja/analize-rada-i-zaposljavanje> [accessed 1 March 2016].

Pravobraniteljica za ravnopravnost spolova (2012), *Položaj trudnica i majki s malom djecom na tržištu rada* (The situation of pregnant women and mothers with young children in the labor market), available at: <http://www.prs.hr/index.php/analize-i-istraživanja/analize-rada-i-zaposljavanje> [accessed 1 March 2016].



Italy



This factsheet provides an overview of available national evidence of the economic outcomes of gender equality in the areas of labour market participation, and decision-making.

EIGE's report on the Gender Equality Index shows that, in 2012, Italy scored 41.1 out of 100 points, where 100 stands for the best situation in terms of levels of achievements and full gender equality (the EU-28 score for the same year is 52.9). From a global perspective, with a score of 0.726, Italy ranked 41st out of 145 countries analysed by the 2015 Global Gender Gap Report of the World Economic Forum. Italian women benefit from equality in the areas of Educational Attainment and Health, but the areas of Economic Participation and Opportunity and Political Empowerment are still lagging behind. Women are under-represented in the Italian parliament and in ministerial positions, and suffer from various forms of discrimination in the labour market:

- Scarce labour force participation, especially in southern regions;

- Persistent pay gap; and
- The presence of an unfair 'glass ceiling'.

However, a recent law (2011) mandated increased representation of women on boards of publicly listed and state-owned companies. The so-called Golfo-Mosca Law required that boards of these companies had at least 33 % of either gender by 2015 and set a target of 20 % for the transition period. In the event of non-compliance, a progressive warning system could culminate in the eventual dissolution of the board.

Given the prominence of this issue in Italy, this country report includes studies that focus on how women in leadership positions affect business performance. In addition to this, a review of the existing literature for Italy found other studies that try to estimate the impact of gender equality on the country's economic growth, particularly by focusing on the effect that an increased women's employment rate has on the real GDP and the GDP per capita.

Summary table of quantitative studies on economic benefits of gender equality

Area of gender equality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
Labour market participation	GDP Employment	<p>0.28 % GDP increase in Italy with + 1 % women's employment rate (Casarico and Profeta, 2007).</p> <p>Higher Italian GDP if female employment rate increases (different scenarios, Zizza, 2008).</p> <p>Positive correlation between the Italian Gender Gap Index (IGGI) and the GDP per capita (Bozzano, 2012).</p> <p>Increase in women's employment rates could lead to between + 11 % to + 19 % impact on GDP (Aguirre et al., 2012).</p> <p>Rising women's participation in the labour market for years 2005-2015 could result in 0.1 % (low), 0.3 % (central) and 0.6 % (high) contribution to GDP growth (Daly, 2007).</p> <p>If women's participation rates converged with those of men by 2030, labour force would increase by 7 % by 2030 and GDP per capita by 1 percentage point per year for the following 20 years (OECD, 2012).</p> <p>A comprehensive package of labour market reforms could raise the level of real GDP by 5.7 % after 5 years and by 10.5 % in the long run (IMF, 2012).</p> <p>If total gender balance is achieved on the labour market, GDP would increase by 32 % (Löfström, 2009).</p>	<p>Correlation analyses on regional-level data</p> <p><i>Data source:</i> counterfactual assessment on Eurostat data for Italy.</p>



Firms' leadership positions	Labour productivity Business profitability and performance	Labour productivity in firms with a woman CEO significantly increases with the share of women workers (Flabbi et al., 2014). Women directors working in women-owned firms are associated with significant improvements in the firm's operating profitability (Amore et al., 2015). The presence of women in leadership positions did not significantly affect firms' performance indicators (Sangalli and Trenti, 2015; Women Mean Business and Economic Growth, 2015).	Micro-econometric regression analysis <i>Source:</i> data on Italian firms.
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Overview of research methods used

There are four national studies using advanced econometric techniques to analyse the impact of women in leadership positions on business performance:

- A recent project Women Mean Business and Economic Growth (2013-2015) ⁽⁴²⁾ focuses on the recently adopted Golfo-Mosca Law that introduced gender quotas in company boards and empirically analyses its impacts on firms' outcomes. The study uses a two-stage OLS regression model with an instrumental variable to identify the causal effects that the presence of women in company boards has on financial indicators of business performance.
- Amore et al. (2014) use a similar methodology for an empirical analysis of the effects of gender interactions at the top of the corporate hierarchy on business performance, measured in terms of profitability.
- In a study on the correlation between the presence of women on boards of Italian enterprises and the enterprises' (negative) performance during the 2008-2013 economic crisis, Sangalli and Trenti (2015) use a probit model followed by a propensity score matching.
- Flabbi et al. (2014) present a signal extraction model where the main assumption is that women and men executives are better equipped to assess the skills of employees who are of the same gender as them. They compute the efficiency costs of women's under-representation in leadership positions through a series of partial equilibrium counterfactual exercises. The outcome variables used in this study are sales per worker, value added per worker and total factor productivity (TFP), which are considered to be less volatile and less likely to be affected by gender discrimination.

There are also two further studies that model the impact of gender equality on overall economic performance:

- In a paper on the geographical distribution of gender inequality across Italian regions, Bozzano (2012) computes a composite indicator of gender inequality at the regional level for Italy, and presents the correlation between the obtained Italian Gender Gap Index (IGGI) and relevant socioeconomic variables (Regional Competitiveness Index — RCI, GDP per capita, total fertility rate, voluntary abortion rate, poverty index, large households, youth at home, divorce rate, religiousness, religious marriages).
- Casarico and Profeta (2007) simulate the entry of 100 000 women into the Italian labour market (around + 1 % in the women's employment rate) and calculate the value added by each of them. They assume that each woman brings an additional value added equal to that of a standard worker in the sector of destination. This simulation, however, does not take into account the possible negative impact of a peak in the women's employment rate on the labour market: a big flow entering the job market would require adjustments in the productivity and current employment patterns, as well as in wages, capital and fixed factors.

Finally, there is one cost–benefit analysis of childcare policy based on adding estimated benefits of additional nursery places and subtracting them from public costs associated with additional childcare provision (Bettio and Gentili, 2015). This study is highly assumption-based and does not employ statistically advanced methods of analysis.

⁽⁴²⁾ Project coordinated by the Department for Equal Opportunities of the Presidency of the Italian Council of Ministers in collaboration with the Dondena Center for Research on Social Dynamics of the University Luigi Bocconi.

How does gender equality affect economic outcomes?

There is one study that identifies significant positive effects of women's leadership on firm performance (Flabbi et al., 2014). This study investigates the interactions between how the gender of a firm's CEO affects gender-specific wage distributions and the firm's performance. The authors find that women CEOs are more likely to reverse statistical discrimination against women, adjust their wages and reduce the mismatch between women workers' productivity and job requirements. The performance of a firm led by a woman CEO increases and this increase is likely to be higher for firms with a higher share of women workers.

Flabbi et al. (2014) also find a significant positive impact of women's leadership on firm performance, measured by sales per worker, value added per worker, and total factor productivity (TFP). They demonstrate that the impact of women CEOs on a firm's performance is a positive function of the proportion of women workers employed by the firm. The magnitude of the impact is substantial: a woman CEO would increase overall sales per employee by about 3.7 % when leading a firm employing the average proportion of women. Using their estimates, the authors perform a partial equilibrium counterfactual exercise to compute the cost of women's under-representation in leadership positions. Results indicate that if women CEOs were in charge of all firms with at least a 20 % of women in their workforce (about 50 % of the sample), sales per worker would increase by 14 % in the 'treated' firms, and by 6.7 % in the overall sample of firms.

However, results from other studies are not so positive:

- The results of the project Women Mean Business and Economic Growth show that firms' performance is not significantly affected by the increased proportion of women on boards, which resulted from the introduction of the previously mentioned Golfo-Mosca Law. However, the authors tentatively mention one positive effect: the reform has on average decreased short-term enterprise debts. This generally leads to improvements in the income and expenditure balance, which can potentially improve the company's performance. This study overcomes endogeneity problems by exploiting the 'natural experiment' brought by the introduction of the Golfo-Mosca Law and by using the instrumental variable technique.
- Similarly, Sangalli and Trenti (2015) demonstrate that the presence of women in leadership positions in Italian enterprises did not significantly affect their performance indicators (such as profits, gross margin and EBITDA margin) during the 2008-2013 crisis.

Women-led enterprises have suffered from the same effects of the economic crisis, regardless of the composition of the gender of their leaders.

- In another study analysing the effect of women leaders on corporate performance, Amore et al. (2014) show that women leaders affect firm's profitability in a significantly negative way if there is low share of women on the company board. Their results suggest that in order for women leaders to induce a small but significant (0.9 percentage points) positive effect on profitability, the proportion of women directors in the company board has to be large. This is a meaningful result, given that these firms account for approximately 20 % of Italy's GDP and employ a similar portion of the workforce.

There is also one study that assesses the financial sustainability of an increase in the number of places at nurseries (Bettio and Gentili, 2015). The study shows that a public investment to increase the number of places at nurseries (+ 160 000), accompanied by an extension in the weekly number of hours of service (+ 10 weekly hours), would result in the creation of:

- 137 000 new jobs (educators, other jobs related to the childcare services, parents' jobs); in the pessimistic scenario;
- 164 000 new jobs; in the mean scenario; and
- 190 000 new jobs, in the optimistic scenario.

The intervention would cost around EUR 345 million per year (0.021 % 2015 GDP). Only in the pessimistic scenario are these costs higher than additional revenues.

Key macroeconomic impacts of gender equality

In terms of macroeconomic outcomes, Bozzano (2012) shows a positive correlation between the gender gaps and regional competitiveness in Italy: smaller gender gaps are positively correlated with increased economic competitiveness and, in a similar way, there is a positive correlation between gender equality and the GDP per capita. Conversely, gender equality is negatively correlated with the poverty level. Gender equality is also positively correlated with the total fertility rate and with the abortion rate: higher levels of gender equality at the macro level appear to favour the decision to have more children and are supposed to promote sexual emancipation, which is proxied by a higher abortion rate.



As far as the country's economic performance indicators are concerned, Casarico and Profeta (2007) simulate the entry of 100 000 women into the Italian labour market (around + 1 % in the women's employment rate), in a famous article published by the Italian economic newspaper *Il Sole 24 Ore*. The results show that the total value added would be equal to 0.28 % of Italian GDP for 2007. Moreover, the authors find that this value added alone could finance a 30 % increase in the Italian national expenditure for families, resulting in a virtuous circle of growth. As previously mentioned, this simulation does not take into account the possible negative effects in terms of increased employment rate of women, which may require adjustments in productivity and current employment patterns, as well as in wages, capital and fixed factors.

Finally, several authors have investigated the key links of gender equality to microeconomic outcomes, particularly in the field of company performance (Flabbi et al., 2014; Sangalli and Trenti, 2015; Amore et al., 2014). Some of the results show an overall positive link between gender equality and business performance (Flabbi et al., 2014), suggesting that it also has a positive impact on the economic performance of a country as a whole.

While there are no further studies exploring the macroeconomic impact of gender equality at national level in Italy, some findings from international research can support the existing evidence from national findings:

- Aguirre et al. (2012) estimate that increases in women's employment rates could lead to between + 11 % to + 19 % impact on GDP.
- Daly (2007) estimates that rising women's participation in the labour market for years 2005-2015 could result in a 0.1 % (low), 0.3 % (central) and 0.6 % (high) contribution to GDP growth.
- OECD (2012) projections show that, if women's participation rates converged with those of men by 2030, the Italian labour force would increase by 7 % by 2030 and GDP per capita would rise by 1 percentage point per year for the following 20 years.
- In 2012 the IMF suggested that a comprehensive package of labour market reforms could raise the level of Italian real GDP by 5.7 % after 5 years and by 10.5 % in the long run.
- Löfström (2009) estimates a 32 % potential increase in the Italian GDP if total gender balance was achieved on the labour market in a comprehensive simulation for all the EU Member States.

Conclusions

The Italian context is still characterised by persistent gender inequality, which is particularly high in the fields of economic participation/opportunity and political empowerment. The country is trying to close the gap with the adoption of more inclusive policies. Among them, it is worth noting the so-called Golfo-Mosca Law on the representation of women on boards of publicly listed and state-owned companies. A recent study (Women Mean Business and Economic Growth) shows that the reform imposing a higher proportion of women on boards has on average decreased short-term debts, meaning a potential improvement in companies' performance.

The correlation between the presence of women at the top of the corporate hierarchy and the companies' performance has also been studied by other scholars (Amore et al., 2014; Flabbi et al., 2014; Sangalli and Trenti, 2015), although with a few differences in the economic indicators considered (traditional financial indicators versus sales per worker, value added per worker and total factor productivity) and in the econometric techniques used (triple-difference approach complemented by a propensity score matching, probit model followed by a propensity score matching, single extraction model followed by a series of partial equilibrium counterfactual exercises, respectively). While some of these studies indicate a positive effect of women leadership on performance, others do not find such effects.

Another interesting study is the cost-benefit analysis performed by Bettio and Gentili (2015), focusing on the effects of the introduction of a new childcare policy in Italy. They show that a publicly financed increase in the number of places at nurseries, accompanied by an extension in the weekly number of hours of service, would result in the creation of a number of new jobs, with total public costs lower than revenues in both the optimistic and mean scenario.

The positive correlation between gender equality and Italian economic growth has been studied in two national studies (Bozzano, 2012; Casarico and Profeta, 2007) and is also supported by results from international research (Zizza, 2008; Aguirre et al., 2012; Daly, 2007, Löfström, 2009), particularly when considering a massive flow of women newly entering the labour market. In fact, even if we consider a temporary drop in labour productivity and a drop in average hours worked across the economy, the estimates are always positive.

Bibliography

Aguirre, D. A., Hoteit, L., Rupp, C. and Sabbagh, K. (2012), *Empowering the Third Billion: Women and the world of work in 2012*.

Amore, M. D., Garofalo, O. and Minichilli, A. (2014), 'Gender Interactions within the Family Firm', *Management Science*, Vol. 60, No 5, pp. 1083-1097.

Bettio, F. and Gentili, E. (2015), *Asili nido e sostenibilità finanziaria: una simulazione per l'Italia*.

Bozzano, M. (2012), 'Assessing Gender Inequality among Italian Regions: The Italian Gender Gap Index', *Quaderni del Dipartimento di economia politica e metodi quantitativi dell'Università degli Studi di Pavia*, Vol. 174.

Casarico, A. and Profeta, P. (2007), 'Se solo lavorassero 100 mila donne in più', *Il Sole 24 Ore*, 21/01/2007.

Daly, K. (2007), *Gender Inequality, Growth and Global Ageing*, Global Economics Paper, 154 (04/2007).

Department for Equal Opportunities — Presidency of Council of Ministers in partnership with Dondena Research Center on Social Dynamics, Bocconi University (2015), *Analysis of the impact of the Italian law requiring gender-balanced representation on boards of publicly listed and state-owned companies*, Women Mean Business and Economic Growth project, Work Package.

Eurofound (2016), *Gender employment gap: Challenges and solutions*, forthcoming.

Flabbi, L., Macis, M., Moro, A. and Schivardi, F. (2014), *Do Female Executives Make a Difference? The Impact of Female Leadership on Gender Gaps and Firm Performance*, IZA Discussion Papers, No 8602.

International Monetary Fund (2012), *IMF Country Report No 12/167 Italy*.

Löfström, Å. (2009), *Gender equality, economic growth and employment*.

OECD (2012), *Closing the Gender Gap: Act Now: Italy*.

Sangalli, I. and Trenti, S. (2015), 'Imprese femminili: strategie competitive e differenziali di performance nel manifatturiero italiano', *Quali evidenze da un'analisi di matching*.

World Economic Forum (2015), *The Global Gender Gap Report 2015: Italy*.

Zizza, R. (2008), *Il contributo del lavoro femminile alla crescita economica*.



Cyprus



This factsheet provides an overview of available national evidence of the economic outcomes of gender equality in the areas of labour market participation, and paygap.

Several studies on gender equality in Cyprus focus on the gender wage gap. There are four quantitative studies that analyse the gender wage gap mainly in relation to gender segregation in the labour market (Christofides and Pashardes, 2000; Christofides and Vrachimis, 2007; Institute of Social Innovation, 2007; Panayiotou, 2008). One study in particular is using advanced statistical methods to analyse the gender wage gap in correlation to the gender segregation of

the labour market (Institute of Social Innovation, 2007). In the literature, there is also a strand that analyses the dominant perceptions of gender inequalities (Koutselini, 2007), in particular the reconciliation of professional and family life of women (ELINA, 2006; Pandora, 2007) and a study on available childcare services (Panayiotou, 2008a). None of these studies addresses macroeconomic changes caused by improvements in gender equality indicators. Moreover, there is a lack of studies documenting the impact of gender equality on macroeconomic factors after the economic crisis of 2009, and especially after 2011.

Summary table of quantitative studies on economic benefits of gender equality

Area of gender equality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
Labour market participation	Proportion of workers in different sectors	No evidence of the macroeconomic impact of gender equality. Evidence of gender segregation being caused by gender stereotyping (Koutselini, 2007; Elina, 2006; Pandora, 2007).	Analysis of questionnaires <i>Data sources:</i> Primary questionnaire research.
Gender pay gap	Gender pay	No evidence of the macroeconomic impact of gender equality. Two studies provide evidence of the micro-economic impact of the gender pay gap on household income distribution (Christofides and Pashardes, 2000; Christofides and Vrachimis, 2007). Evidence that gender pay gaps may be higher than commonly assumed when over-representation of women in part-time employment is taken into account (Institute of Social Innovation, 2007).	Micro-econometric analysis (Christofides and Pashardes, 2000; Christofides and Vrachimis, 2007; Institute of Social Innovation, 2007) <i>Data sources:</i> Eurostat Survey of Household Expenditure and Income; Eurostat Statistics on Income and Living Conditions (SILC); Cypriot Survey on Wages and Survey on Structure of Wages; Eurostat Labour Force Survey (LFS).

Overview of research methods used

In Cyprus, most of the relevant literature on gender equality is produced in the government sector or in the context of EU-funded projects. It generally follows a policy-oriented approach that emphasises EU policy developments and directions. There is only scarce evidence that the economic development of Cyprus has been supported by the improvements in gender equality. The focus of most relevant studies is on the areas where Cyprus is seen as lagging behind EU standards. The most important issues discussed in relevant reports are gender segregation and the gender wage gap, two phenomena that persist despite improvements in education and in employment. Other issues

discussed include perceptions of gender equality, work-life balance, and care.

First, there is a research strand that focuses on economic analyses of the gender wage gap. A study of the gender wage gap published in 2000 uses a quantitative analysis of the 1991 Survey of Household Expenditure and Income (Christofides and Pashardes, 2000). The same methodology is used in a follow-up to this study that takes a more detailed longitudinal perspective documenting the dramatic changes that occurred in Cyprus from 1990 to 2001. The study examines and compares data from the Surveys of Household Expenditure and Income of 1990/1991, 1996/1997 and 2002/2003 (Christofides and Vrachimis,



2007). The econometric model used — among others — is based on Neumark (1988) and Oaxaca and Ransom (1994): ‘Decompositions of the gender wage gap are calculated for each year and changes to them over time, along with the possible reasons for these changes, are then studied’ (Christofides and Vrachimis, 2007, p. 7). The study also analyses how wage gap varies ‘at different points of the wage distribution’.

Another relevant study of the gender wage gap conducted by the Institute of Social Innovation in 2007 examines this theme further, observing that the rise in women’s employment in the 1990s and 2000s does not take into account the percentage of women and men in part-time employment. According to this report, women’s employment in the Cypriot economy was 58.4 % in 2005, while men’s employment was 79 %. The gender gap decreased from 25.7 % in 2000 to 20.8 % in 2005. By estimating the ‘full-time equivalent’, i.e. the number of employees that would have been required during a year to cover working hours (Institute of Social Innovation, 2007, p. 21), the study makes it possible to provide a clearer picture of the gender gap in employment in Cyprus. The study also clearly links segregation to the wage gap by listing the percentages of women and men for each profession (ISCO), alongside the percentage of wage gap, which provides a clear picture of the ways in which stereotypical conceptions of ‘feminine’ and ‘masculine’ professions may have a negative impact on gender equality (p. 31). Moreover, what is really effective in this study is that it charts the impact of age (p. 43), educational status (p. 45) production sector (p. 47) and work experience with last employer (p. 50) on the wage gap.

In this context, the study also analyses the gap in the average working hours of women and men in order to identify the main factors that impact on the wage gap, but also to identify to what extent each factor may have an impact on different sectors of employment. This is achieved through two Mincer equations for the logarithm of the wages of women and men separately through the method of multiple linear regression (OLS) (dependent variable) and the further addition of independent variables such as the characteristics of the employment position or sector (Institute of Social Innovation, 2007, pp. 5962).

Second, another strand of research is focused on the dominant perceptions of gender equality in the labour market. A 2012 study discusses the results of 1 512 telephone interviews with women and men respondents and eight personal interviews with women, which focus on their professional advancement (Koutselini, 2007). Two other studies analyse questionnaires on the perceptions of work–life balance and time spent on work and care (Elina 2006; Pandora, 2007). Third, there is a relatively limited strand of research

that focuses on care issues in Cyprus. A 2008 study based on Eurostat LFS data entitled *The provisions of childcare services in Cyprus* documents the lack of available public day care centres, especially for children under the age of three (Panayiotou, 2008a).

In sum, the first strand of studies focusing on the gender wage gap uses the Surveys of Household Expenditure and Income and Eurostat Labour Force Survey data. The second and third strands of research (perceptions of gender equality, reconciliation of work–life balance and care structures) mainly use data from structured interviews and questionnaires and Eurostat LFS data. No key indicators are used to identify the macroeconomic impact of gender equality.

How does gender equality affect economic outcomes?

In Cyprus, the literature documents that prior to the 1990s the gender gaps in employment, unemployment and wages were significant, but were gradually reduced because of economic development and growth (Christofides and Pashardes, 2000; Christofides and Vrachimis, 2007). The literature observes a steady rise in women’s participation in the labour market in the 1990s and 2000s (Institute of Social Innovation, 2007; Panayiotou, 2008; Pilavaki, 2010). Women’s participation in the labour market is significantly higher than the EU average but still below levels for men: in 2010, it was 68.9 % for women and 82.7 % for men, whereas the EU average was 58.6 % and 70.9 % respectively. In 2010, the percentage of employment for people aged 20–64 was 75.7 %: women’s employment was 67.9 % whereas men’s employment was 81.7 % (Pilavaki, 2010). This trend continues after 2011, when the Cypriot economy underwent a deep crisis, which seems to have led to a further reduction of gender gaps caused mainly by the fact that the employment rates of men were hit much more than those of women. Following the economic crisis, the employment rate of men dropped, while for women it remained stable at 2002 levels, significantly reducing the gender employment gap. Eurostat Labour Force Survey data show that in 2012 the employment rate of women in the Cypriot labour market equalled 59.4 % and thus was slightly above the EU-27 average (58.6 %); however, unemployment for women (11.2 %) in Cyprus was higher than in the EU-27 (10.6 %). Women’s unemployment increased far less than men’s unemployment. Unemployment of women in Cyprus was 11.2 % in 2012. This rate is smaller than the unemployment rate for men (12.8 %). However, both unemployment rates have significantly increased since 2002. For women, the rate went up from 4.2 % to 11.2 % in 2012 (7.0 p.p.); for men it went up from 2.7 % to 12.8 % (10.1 p.p.). Overall, women’s employment was more resilient than men’s employment during the last economic crisis (European Commission, 2013, p. 5).

With regard to macroeconomic indicators, the Institute of Social Innovation study makes the argument that women were used as 'reserve labour' in Cyprus, since their unemployment tends to increase when unemployment increases more broadly. This position considers gender equality in the labour market as a product of growth, but does not give any evidence of the impact of gender equality on economic growth (Institute of Social Innovation, 2007).

There is detailed evidence on the size and determinants of the gender wage gaps, but this evidence does not usually link wage gaps to economic growth:

- Christofides and Pashardes (2000) found that average weekly wages of women were approximately 60 % lower than those of men.
- Christofides and Vrachimis (2007) document an impressive reduction in the gender wage gap between 1990 and 2001, which is mainly attributed to the educational performance of women. According to this research, the overall gender pay gap was reduced by more than 50 % between 1991 and 2003. However, the study also highlights the fact that the pay gap remained very large at the highest levels of the wage distribution. In 2014, the gender pay gap was 15.4 %, according to Eurostat.
- The Institute of Social Innovation study (2007) highlights that if the over-representation of women in part-time jobs is taken into account, the gender wage gaps become higher than commonly assumed. Taking into account this bias, the study documents the concentration of women and men in a list of professions (ISCO categorisation), which shows that approximately 90 % of women in Cyprus are concentrated in nine professions, whereas men's employment is much more widespread across sectors. Overall, the study produces a complex picture of gender segregation and wage gaps, which emphasises the significant role of male-dominated collective labour negotiations, stereotypes about feminised and masculinised sectors, as well as differences between the private and the public sector.

In addition, most of the literature documents that despite improvements in gender gaps, gender bias persists in the Cypriot labour market. A study by Koutselini (2007) observes that only one third of respondents are ill-informed about gender equality, but that the majority of respondents consider gender discrimination against women (including wage gaps and the glass-ceiling effect) in the labour market as a normal and stable feature of the Cypriot labour market. There is also another study focusing on the dominant perceptions of the reconciliation of professional and family life through a small-scale statistical analysis conducted among

women and men directors and employees of companies (Pandora, 2007). In Cyprus, both directors and employees believe that the measures for the reconciliation of family and professional life are too costly and difficult to implement for companies. The study makes policy recommendations for the improvement of these perceptions but does not discuss in detail what the comparative advantages for companies would be if more measures were adopted (Pandora, 2007). The findings of this 2007 study are very similar to a 2006 analysis of the dominant perception of the reconciliation of family and professional life (Elina, 2006).

Finally, the literature documents that women spend more time on childcare than men, despite working equal hours. Moreover, many studies bring to the forefront the dominant role of grandparents, especially grandmothers, in the care of children (Elina, 2006; Pandora, 2007; Panayiotou, 2008a).

The link of other gender inequalities to economic outcomes remains largely unexplored in the national literature. This is especially interesting in the case of migrant domestic workers and carers, who play an important role in enabling Cypriot women to participate in the labour market by being responsible for child and elderly care and domestic work for very low salaries. Cyprus has signed intergovernmental agreements with sending countries, such as the Philippines, for the import of domestic and care labour. These agreements guarantee very low salaries and long working hours for domestic workers and carers, which in turn impact on the ability of Cypriot women to enter the labour market (Gregoriou, 2013).

Key macroeconomic impacts of gender equality

Following the economic crisis, the employment rate for men dropped, while for women it remained stable at 2002 levels (European Commission, 2013). Unemployment rates in Cyprus rose from 3.4 % in 2007 to 17.1 % in 2014 for men, whereas for women the rise was from 4.6 % in 2007 to 15.1 % in 2014 (Eurostat, 2015). These tendencies point to an apparent paradox: during the economic crisis, gender equality indicators tend to improve as macroeconomic indicators worsen. Although these trends present macroeconomic challenges for the study of gender equality, we could not identify any studies discussing explicitly their impact on economic growth and innovation in Cyprus.



Conclusions

The key methods existing in Cyprus to assess the economic impacts of gender equality are very limited. They consist of analyses of Labour Force Survey statistics, but also of analyses of gender segregation and wage levels by professional sectors. The studies in the Cypriot case mainly identify barriers and obstacles to gender equality through statistical methods based on the analysis of gender segregation and the gender wage gap.

The key findings of the literature on gender equality in the Cypriot context can be summarised as follows:

- Labour force surveys often hide flexible and part-time labour, in which women are over-represented.
- Part-time employment by sex and sector should be taken into account when studying gender gaps in employment
- Wage levels in feminised sectors should be considered when studying gender wage gaps.
- Questions of available and affordable care should address both formal structures in the private and public sector, but also formal and informal migrant domestic and care work.

It is very important to undertake studies to examine changes that have occurred since 2011 in gender equality indicators in Cyprus. In addition, it would be useful to use statistical methods to assess the positive impact of migrant domestic and care work on women's employment levels in Cyprus.

Bibliography

Christofides, L. and Pashardes, P. (2000), 'The gender wage gap: A study of paid work in Cyprus', *Labour*, Vol. 14, No 2, pp. 311-330.

Christofides, L. and Vrachimis, K. (2007), 'The gender wage gap in Cyprus', *Economic Analysis Papers*, University of Cyprus Economics Research Centre, No 10-07.

Ellina, C. (2006), *Research on the gendered social map of Cyprus*, part of the EQUAL initiative 'Elani' project.

European Commission — DG Justice — Unit D2: Gender Equality (2013), *The current situation of gender equality in Cyprus: Country profile*, Ronald Berger Strategy Consultants in association with Unternehmenskommunikation GmbH & Co, KG.Unit.

Eurostat (2015), *Unemployment rates by age and gender 2007-2014*.

Gregoriou, Z. (2013), *Gender and migration: Case study Cyprus. Report of the EU FP7 project GeMIC: Gender, Migration and Intercultural Interactions*.

Institute of Social Innovation (2007), *Analysis of the wage gap between men and women in Cyprus and practical proposals for its reduction*, Department of Labour Relations — Ministry of Employment and Social Insurance.

Koutselini-loannidou, M. (2007), *Gender equality in the labour market*, Committee for Gender Equality in Work and Employment.

Neumark, D. (1988), 'Employer's Discriminatory Behavior and the Estimation of Wage Discrimination', *The Journal of Human Resources*, Vol. 23, pp. 279-295.

Oaxaca, R. L. and Ransom, M. R. (1994), 'On discrimination and the decomposition of wage differentials', *Journal of Econometrics*, Vol. 61, pp. 5-21.

Panayiotou, A. (2008), *Gender segregation in the labour market: Roots, implications and policy responses in Cyprus*, external report commissioned by and presented to the EU Directorate-General Employment and Social Affairs — Unit G1: Equality between Women and Men.

Panayiotou, A. (2008a), *The provision of childcare services in Cyprus*, external report commissioned by the EU Directorate-General Employment and Social Affairs — Unit G1: Equality between Women and Men.

Pandora (2007), *Transforming the reconciliation of family and work from a cost into a comparative advantage for companies: Reinforcing motivation for decision-makers*, Pandora, EQUAL.

Pilavaki, A. (2010), *The gender dimension in the labour market of Cyprus and in Europe*, Department of Labour Relations, Ministry of Employment and Social Insurance.



Latvia



This factsheet provides an overview of available national evidence of the economic outcomes of gender equality in the areas of labour market participation, pay gap and decision-making.

In Latvia the scope of studies on gender equality is very limited. Gender equality is a relatively new area and is not very popular with researchers, especially economists using advanced statistical methods. Most studies are descriptive in nature, compiling information from different sources: previous studies, legal documents, survey data, focus group discussions and case studies. Very few studies use econometric techniques. There are no studies focusing on economic impacts of gender equality.

In the mid 2000s, after Latvia's accession to the EU, there was a surge of studies on gender equality co-financed by EU funding. These studies usually represent extensive reports addressing a wide range of questions related to gender equality in a descriptive manner, e.g. FACTUM & BISS (2006), BISS (2005). There are also studies focusing on collecting new survey data and analysing it using basic statistical methods, e.g. SKDS (2005).

After the deep economic crisis in 2008, the interest in gender equality issues in Latvia greatly diminished. The focus shifted towards the problems of growing unemployment and inadequate social protection of disadvantaged groups. The literature in the area of gender equality became more fragmented.

Summary table of quantitative studies on economic benefits of gender equality

Area of gender equality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
Labour market participation	Labour market participation	The factors that negatively affect labour market participation of women are high gender segregation in occupations, gender-based discrimination at work (in particular, unequal pay), lack of flexibility with respect to working time and working remotely, job insecurity related to childcare leave (BISS, 2005).	Descriptive statistical analysis and qualitative analysis <i>Data sources:</i> primary and secondary survey data.
Gender pay gap	No focus on macro indicators Other indicators: gender pay gap	No evidence of macroeconomic impact. Unadjusted gender pay gap is 22 to 28 % and it narrows down to 18.5 to 21.5 % if observable characteristics of women and men are controlled for (FACTUM & BISS, 2006).	Micro-econometric analysis <i>Data sources:</i> Labour Force Survey, Survey on Wages And Impacting Factors.
Business leadership	Women's participation in decision-making	No evidence of macroeconomic impact. At microeconomic level, local companies rarely have any supportive actions or initiatives to attract women employees into different levels of company governance. Such practices exist only in branches of international companies in Latvia. The main obstacles to women's participation in high levels of company governance are traditional views on gender roles and stereotypes (SAFEGE BALTIJA & ArtSmart, 2014).	Descriptive statistical analysis <i>Data sources:</i> survey data, focus group discussions, policy documents.

Overview of research methods used

Most studies on gender equality in Latvia are descriptive. They are based on statistical analysis of secondary data or primary data collected by the authors. Frequently such studies are enriched by qualitative analysis based on focus group discussions or case studies. There are very few studies that use econometric analysis. There are no studies that use macroeconomic modelling to address the question of the economic impact of gender equality.

A rare example of econometric analysis is included in the report by FACTUM & BISS (2006). One section of this extensive report presents an econometric estimation of the gender pay gap based on the Labour Force Survey data and on a special survey on wages and impacting factors.

Most other studies use simple statistical analysis of the survey data comparing distribution of outcomes between different population groups or presenting the trends across time: FACTUM & BISS (2006), BISS (2005), SAFEGE BALTIJA



& ArtSmart (2014), Sedlenieks and Vasiļevska (2006), Baltijas Datu Nams (2000), SKDS (2005), and Society Integration Foundation and Latvian Organisations' Psychologists Society (2006).

There are also some purely qualitative studies primarily based on focus group discussions, e.g. Public Policy Institute (2004), Centre for Gender Studies (2004), Ziverte, Šūmane and Tisenkopfs (2005).

How does gender equality affect economic outcomes?

The research on gender equality in Latvia mainly focuses on understanding the current situation, the extent of gender inequality in different areas and the main obstacles to gender equality.

Many studies address gender inequalities in the labour market. For example:

- FACTUM & BISS (2006) is a very broad study exploring attitudes of employers, employees and students to gender equality, problems of childcare and reconciliation of work and family life, and gender pay differences. The study estimates that the unadjusted gender pay gap in Latvia is about 22 to 28 % and that it narrows down to 18.5-21.5 % if observable characteristics of women and men (including professions) are controlled for. According to the most recent Eurostat data, the unadjusted gender pay gap was 15.2 % in 2014.
- BISS (2005) is a similar type of study investigating the factors that affect women's participation in the labour market. The study includes statistical analysis of wage data and discussion of various factors affecting women's participation in the labour market (e.g. education, family responsibilities, working conditions, discrimination, etc.). The analysis is based on focus group discussions and statistical analysis of a representative survey of working-age women. The study highlights the following problems: high gender segregation in occupations; gender-based discrimination at work (in particular, unequal pay); lack of flexibility with respect to working time and working from home; job insecurity related to childcare leave, etc.
- SKDS (2005) explores the attitudes to gender equality at work. They survey a sample of Latvian enterprises and a sample of the adult population of Latvia and ask respondents about their understanding of gender equality, experience of gender-based discrimination, and different aspects of gender affecting work

relations. The findings suggest that only 41 % of the adult population of Latvia can correctly define 'gender equality', and a mere 9 % of Latvian employers are well informed about legislative norms related to gender equality at work.

- The Society Integration Foundation and Latvian Organisations' Psychologists Society (2006) attempt to understand high gender segregation in occupations in Latvia. They collect survey data on the working population of Latvia, oversampling in particular sectors associated with 'male jobs'. They conclude that the stereotypes about women's and men's jobs are very strong among Latvians. Nevertheless, men enjoy a higher flexibility than women in choosing a job that diverges from the common stereotypes.

An important strand of literature focuses on women in decision-making. A recent study by SAFEGE BALTIJA & ArtSmart (2014) investigates the situation of women and men in large companies. This is an extensive study of the factors that hinder or promote women's participation in corporate decision-making. The study reveals that local companies rarely have any supportive actions or initiatives to attract women employees into different levels of company governance. Such practices exist only in branches of international companies in Latvia. According to the study, the main obstacles to women's participation in high levels of company governance are traditional views on gender roles and stereotypes. The study provides policy recommendation for policymakers, social partners, non-governmental institutions and companies. This study is based on a survey of large firms and their employees, focus group discussions as well as analysis of policy documents and previous research.

Two qualitative studies, Public Policy Institute (2004) and Center for Gender Studies (2004), explore the main obstacles to women in politics. According to the results, vertical gender segregation, negative attitudes of women to politics (based on moral considerations), high importance of informal networks in politics, gender stereotypes, influence of media, and lack of mutual support and collaboration between women politicians constitute the main obstacles to equal women's representation in politics.

Ziverte, Šūmane, and Tisenkopfs (2005) is a qualitative study of women in entrepreneurship that discusses the obstacles they face and the factors that promote entrepreneurial activity among women. An interesting conclusion of the study is that most women entrepreneurs do not think that gender inequality is a problem in their field of activity. The most important obstacles to entrepreneurial activity are lack of financial resources, low self-esteem, and unpredictability of entrepreneurial environment (including legislation).

Although childcare availability for small children and reconciliation of work and family life is one of the major problems in Latvia⁽⁴³⁾, there are only a few studies discussing this issue in depth. Interestingly, the focus is very often on men rather than women. For example, Sedlenieks and Vasiļevska (2006) investigate the capability of Latvian men to reconcile work and family life. The study is based on the review of the previous literature as well as on the survey of enterprises in Latvia. The study concludes that active involvement in family life (e.g. childcare) is a risk factor for successful work relations for both genders. Men take paternity or parental leave much less often than women, and if they do they often face negative public opinion. Firms rarely offer flexible working times and an option to work from home. The study shows that big and growing enterprises are more family-friendly than small ones.

There is only one study that explicitly discusses gender as a risk factor behind poverty. Baltijas Datu Nams (2000) is a study of the feminisation of poverty. The study explores the risk factors that contributed to growing poverty among women in 1990s. The major risk factors are found to be marital status (divorced or widowed), the number of children (but not the age), and residence in a rural area.

Key macroeconomic impacts of gender equality

The studies on gender equality in Latvia do not address the link between gender equality and macroeconomic indicators. The positive impact of gender equality on development of society in general is assumed. Because the concept of gender equality is quite new, the studies mainly offer descriptive analysis of gender gaps in different areas. However, the studies are often very broad and lack focus and clear conclusions. As a result, the available literature does not identify clearly the main bottlenecks in the economy related to gender equality. Thus, the question ‘What will be the impact if one of these bottlenecks is removed?’ does not arise.

Conclusions

The research on gender equality in Latvia is not well developed. Most studies are descriptive in nature; they try to address a very broad range of questions, and thus lack a clear focus. The studies rely on a mixture of different

methodologies, often combining qualitative and quantitative methods. The statistical methods used in the literature are very basic. There is a lack of econometric and causal analysis. Many studies focus on collecting their own primary data from small representative samples of adults or enterprises. There are no studies that focus on the macroeconomic impact of gender equality. Usually it is assumed that gender equality will have a positive impact on the development of society in general.

The studies are usually very broad and lack clear conclusions and recommendations. They usually agree that gender roles and gender stereotypes are very strong in Latvian society and affect women’s choices as well as their outcomes. Some of the studies also stress that there is no strong understanding of the concept of gender equality among the general public as well as public officials and politicians.

Bibliography

Baltijas Datu Nams (2000), *Nabadzības feminizācija* (Feminisation of poverty), Riga, available at: http://providus.lv/article_files/2032/original/nabadzifem.pdf?1342702032

BISS (2005), *Pētījums par faktoriem, kas nosaka sievietes iespējas iesaistīties darba tirgū* (Study of the factors that affect women’s chances to participate in the labour market), project within the European Commission initiative EQUAL ‘Open Labour Market for Women’, Riga, available at: http://providus.lv/article_files/1598/original/Sievietes_darba_tirgu.pdf?1332256232

Center for Gender Studies (2004), *The role of mass media in (re)distribution of power*, University of Latvia, Riga, available at: http://providus.lv/article_files/2099/original/mediju_loma_var_pard_en.pdf?1343208614

Eurofound (2010), *Second European Quality of Life Survey: Family life and work*, available at: <http://www.eurofound.europa.eu/pubdocs/2010/02/en/1/EF1002EN.pdf>

FACTUM & BISS (2006), *Gender equality aspects in the labour market*, ‘Labour Market Studies’ project of the European Structural Fund National Programme ‘Labour market studies of the Ministry of Welfare’, Riga, available at: http://www.lm.gov.lv/upload/darba_tirgus/darba_tirgus/petijumi/10_pet_en.pdf

⁽⁴³⁾ The Latvian Association of Local and Regional Governments (2012) acknowledged long waiting lists for public kindergartens in 15 % of municipalities. According to Eurofound (2010), Latvia has one of the highest proportions of people who experience a conflict in reconciling work and family life.



Latvian Association of Local and Regional Governments (2012), *Par pirmsskolas izglītības iestāžu pieejamību* (Availability of pre-school education institutions), communication to the Prime Minister, available at: http://www.lm.gov.lv/upload/sabiedribas_lidzdaliba/demografisko_lietu/lpsves_020412_0420120868.pdf

Public Policy Institute (2004), *Sievietes un vīrieši valsts pārvaldībā* (Women and men in governance), Sabiedriskās politikas institūts, available at: <http://providus.lv/article/sievietes-un-viriesi-parvaldiba>

SAFEGE BALTIJA & ArtSmart (2014), *Sieviešu un vīriešu situācijas izpēte Latvijas lielajos uzņēmumos* (Study of the situation of men and women in large companies), Riga, available at: http://www.sif.gov.lv/index.php?option=com_content&view=article&id=9479%3APetijums&catid=2%3Afonds&Itemid=244&lang=lv

Sedlenieks and Vasiļevska (2006), *Vīriešu iespējas savienot darba un ģimenes dzīvi mūsdienā Latvijā* (Men's possibilities to reconcile work and family life in Latvia), project 'Men equal, men different', Bērnu un ģimenes lietu ministrija Latvijas Republika, Riga, available at: http://providus.lv/article_files/1624/original/latvfinal.pdf?1332315068

SKDS (2005), *Attieksme pret dzimumu līdztiesību darba attiecībās* (Attitudes to gender equality at work), Tīrgus un sabiedriskas domas pētījumu centrs SKDS, available at: http://www.lm.gov.lv/upload/dzimumu_lidztiesiba/situacija_latvija/petijums_atskaite_dzimumi112005.pdf

Society Integration Foundation and Latvian Organisations' Psychologists Society (2006), *Pētījums par profesiju segregācijas cēloņiem un stereotipiem* (Study of stereotypes and causes of occupation segregation), Riga, available at: <http://providus.lv/article/petijums-par-profesiju-segregācijas-celoniem-un-stereotipiem>

Ziverte, L., Šūmane, S. and Tisenkopfs, T. (2005), *Sievietes biznesā un lauksaimniecībā* (Women in business and agriculture), SIA Baltijas Studiju Centrs, available at: http://www.lm.gov.lv/upload/dzimumu_lidztiesiba/situacija_latvija/gala_zinojums_lm_latv.pdf



Lithuania



This factsheet provides an overview of available national evidence of the economic outcomes of gender equality in the areas of labour market participation and pay gap.

In Lithuania there is very little academic research that specifically addresses issues of gender equality in economics. However, the research includes a study on gender budgeting (Rakauskienė and Lisauskaitė), a collective monograph on gender and economics (Rakauskiene et al., 2014) and a PhD dissertation on the impact of gender mainstreaming in economic policies (Krinickiene, 2014). The study on gender budgeting by Rakauskiene and Lisauskaite introduced this concept and methodology in the Lithuanian context. The collective monograph by six authors, namely O. Rakauskiene, D. Streimikiene, I. Zaleniene, I. Kiausiene, V. Servitkiene and E. Krinickiene, covers analysis of gender in macro and microeconomics. The authors investigate different areas in economics and use disaggregated statistics and empirical survey data to ground their arguments about unequal access and distribution of resources, power and opportunities along gender lines at international, European and national levels. A doctoral dissertation by Krinickiene provides a literature review on gendered aspects of economics, discusses methodological tools for macro- and micro-analysis, presents disaggregated statistics of positioning women and men in different areas of labour market and business, and examines women's business issues.

Some research at microeconomic level analyses women and men's conditions in the labour market and explores sex-disaggregated statistics to present the unequal position of women and men in the labour market. These studies apply statistical indicators such as employment rates, unemployment rates, pay gap, vertical and horizontal segregation of labour market along gender lines and analyse sex-disaggregated data produced by the national statistics office (Rakauskiene, 2000; Kanopienė, 2005; Grybaitė, 2006; Daukantienė, 2006; Guščinskienė and Čiburienė, 2009; Braziene and Luobikiene, 2002; Braziene, 2002; Braziene and Daukantiene, 2010). There are many studies that analyse the reconciliation of family and work, highlighting women's double burden to respond to family needs and maintain active employment in the labour market (Reingarde, 2006; Stankuniene and Maslauskaite, 2009). Nevertheless economic aspects are hardly addressed in these studies and will not be discussed in this report.

Some studies analyse gendered aspects in professional careers in Lithuania. For example, two studies argue that the lack of childcare facilities negatively affects young women's participation in the labour market (Dromantė-Stančikienė, Gineitienė, 2010; Braziene Daukantiene, 2010). Another study provides evidence of gender inequality in the economic decision-making process and makes qualitative analysis of gender biases in businesses (Šidlauskienė and Pocevičienė, 2015). One study analyses conditions of vulnerable groups of women (ethnic minority, migrant, disabled, elderly women) in the labour market (Šidlauskienė and Pocevičienė, 2015).

Summary table of quantitative studies on economic benefits of gender equality

Area of gender equality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
Labour market participation	Employment Government budget	<p>Access and infrastructure of childcare may limit employment of women:</p> <p>The employment rates for women aged 20-49 are slightly lower for those with children under 12. On the other hand, the employment rates for men with children are considerably higher than the rates for men without children (Braziene and Daukantiene, 2010).</p> <p>Analysis of the national budget highlights gender asymmetry in distribution of state revenue:</p> <p>A larger share of the state budget is allocated to economic spheres dominated by men (governance (25.4 %), industries (25.3 %), public order (9 %), state defence (5.5 % rather than spheres occupied by women (education (10.2 %), social security (10.2 %), health (6.2 %), culture (2.7 % (Rakauskiene et al., 2014).</p> <p>The reproductive sphere is not included in the state's structure of GDP. However, by referring to the national statistics, women's contribution in the reproductive sphere could be estimated as 7.87 % (Krinickiene, 2014).</p>	<p>Evidence produced relying on statistical data provided by the Statistics Department of Lithuania (without using a macroeconomic model)</p> <p><i>Data sources:</i></p> <p>Statistics Department of Lithuania (employment)</p> <p>Ministry of Finances: annual statistical data of national budget.</p>



Gender pay gap	Gender pay gap	There are some studies that use statistical data to assess the size of the gender pay gap and discuss its causes. Surveys and qualitative research complement this statistical evidence and provide contextual information about inequalities in labour market (Braziene and Luobikiene, 2002, Grybaite, 2006; Guščinskienė and Čiburiene, 2009; Sidlauskienė and Pocevičienė, 2015; Streimkiene and Kausienė, 2014, pp. 287-357).	Descriptive quantitative analysis, qualitative research <i>Data sources:</i> Statistics Department of Lithuania (employment, wages) Survey questionnaires on attitudes of women and men Qualitative research.
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Overview of research methods used

Research on gender inequalities in the labour market relies on annual statistical data provided by the Statistics Department of Lithuania. These statistics illustrate the tendencies of unequal distribution of resources along gender lines, for example gaps in fiscal, monetary and credit spheres, unequal distribution of resources in foreign investment, gaps between income and paid taxes (Krinickienė, 2014; Rakauskienė et al., 2014).

At microeconomic level some researchers suggested using 3R (Representation, Resources and Realia) methodology elaborated by the Swedish Association of Local Authorities. By applying small-scale statistical analysis in a very concrete sphere, it is possible to measure a gender-(im)balanced representation and distribution of resources and identify broader structural and cultural obstacles to achieve gender equality goals (Krinickienė, 2014).

The majority of studies that address gender aspects in the economic field combine statistical data and quantitative analysis (representative surveys) with qualitative research (interviews) to assess (un)equal conditions of women and men in the labour market in general, in their professional career, and in the decision-making process both at an organisational level and policy level. Analysis of statistical data is based on simple calculations and comparisons at Lithuanian national level. None of these studies use more advanced statistical techniques to measure impacts on economic performance. The studies that apply qualitative research methods aim at analysing the awareness of the population and employers about gender equality, experiences of discrimination and prevention of discrimination. They conclude that gender stereotypes are one of the main causes that affect women's unequal opportunities in the labour market and society in general.

Many researchers rely on the EU policy framework highlighting the necessity to mainstream gender equality to

achieve economic benefits. Thus, the analysis of statistical data serves to raise the questions of inequality of women in active employment, higher rates of women in long-term unemployment, the pay gap and segregation of the labour market along gender lines.

How does gender equality affect economic outcomes?

Assessing the participation of women and men in the labour market, existing research indicates that unequal opportunities for women and men still persist in Lithuania. Though statistical data provided by the Statistics Department suggests that women achieve higher education qualifications, their wages are still lower than for men (by 14.8 % in 2014 according to Eurostat data). Results of a population opinion survey suggest that limited opportunities to reconcile family and work have an impact on women's opportunities. Women more often than men tend to choose lower-paid jobs, lower-qualification jobs or part-time jobs (Streimkiene and Kausienė, 2014). The existing concentration of women in the public sector and particularly in the social service sector increases the gaps between women and men in employment (Streimkiene and Kausienė, 2014; Braziene, 2002).

Some studies argue that limited infrastructure and possibilities to reconcile family and work negatively affect young women's participation in active employment in Lithuania. Though up to 67 % of women have higher education qualifications and 94 % have secondary and/or professional education, employment is lower, particularly for younger women aged up to 40 (Dromantė-Stančikienė and Gineitienė, 2010). Sociological research conducted in 2006 shows that because of the lack of childcare every fourth Lithuanian woman had to refuse career opportunities, 23 % suffered greater physical and emotional stress at work and 22 % had to reduce work capacity (Braziene and Daukantiene, 2010).

Many studies identify cultural factors that cause the unequal opportunities for women and men in the labour market, professional career, choice in professional education and the pay gap. By investigating population and employers' attitudes to women's and men's position in the labour market and society, researchers highlight that gender stereotypes are among the key obstacles for improving gender equality principles (Braziene and Luobikiene, 2002; Braziene and Daukantiene, 2010; Sidlauskiene and Pocevičienė, 2015; Streimkiene and Kausienė, 2014).

Women's leadership is also limited in Lithuania. Almost all studies provide statistics on vertical segregation and identify a limited number of women in political and economic decision-making (Braziene and Luobikiene, 2002; Daukantiene, 2006; Dromantaitė-Stančikienė and Gineitienė, 2010; Guščinskienė and Čiburienė, 2009; Rakauskiene et al., 2014; Šidlauskienė and Pocevičienė, 2015).

These analysed studies suggest that unequal opportunities for women and men contribute to women's lower employment, professional and job segregation along gender lines and to the gender pay gap. Some research highlights how the transition to a market economy negatively affected women's position in the labour market and intensified structural inequalities between women and men (Kanopiene, 2005; Rakauskiene et al., 2014). Liberalisation of services and demands for economic efficiency impose additional pressures on women to catch up with men in the labour market while dealing with social pressures to undertake full responsibility for family and care duties (Rakauskiene et al., 2014).

Key macroeconomic impacts of gender equality

Almost all studies agree and support the statement that gender equality is beneficial to economic and social development of the state and Lithuanian society. However, no one study analyses in depth the gender dimension of macroeconomic structures and there is no robust macroeconomic evidence of economic benefits of gender equality. Instead, available research uses statistical data to show gaps and unequal distribution of power, resources, time and opportunities.

One study analyses gender mainstreaming in a macroeconomic context. The researchers argue that there is a tendency for unequal distributions of expenses along gender lines in the Lithuanian public budget (Rakauskiene et al., 2014). The analysis suggests that the biggest share in the budget structure is allocated to economic spheres dominated by men (defence, state governance, public order, industries oriented to export, transport, energy). Much less

public finance is spent on other spheres such as education, culture, healthcare, social security and other services-provision spheres occupied mainly by women (Rakauskiene et al., 2014).

Rakauskiene and Krinickiene have argued that gender asymmetry in distribution of the state expenditures negatively affects the economy and the state income, which significantly decreased in the period 1999-2003. Joining the EU in 2004, the budget structure in Lithuania slightly changed. In the period 2004-2008, allocations for education (up to 10.5 %), healthcare (up to 6.2 %) and social security (up to 10.5 %) increased, and expenditures for economic spheres dominated by men either decreased (up to 25 %) or were left without changes (defence up to 5.6 %, public security 9 %). Nevertheless, in general the spheres dominated by men continue to receive a larger share of the state budget. The economic crisis in 2008 increased gender asymmetry in the distribution of state expenditure due to the state policy of savings and maintaining tight budget. Spending for social security, healthcare and other sectors was reduced and had a negative impact on most vulnerable groups such as women, children and the elderly population. Men-dominated sectors also experienced shortages due to the bankruptcy of many businesses and a significant reduction in the state's income (Rakauskiene et al., 2014, pp. 175-185). Nevertheless, the study does not provide systematic calculations of costs nor does it develop indicators for measuring the impact of gender (in)equality on the macroeconomic performance of the Lithuanian economy.

Another study (Braziene and Daukantiene, 2010) argues that available good-quality childcare services may improve the reconciliation of work and family life, foster labour market participation of women and enhance gender equality. By referring to sociological studies and national statistics, the authors argue that, in 2004-2005, women labour's market participation decreased by 10 % due to the limited access to childcare institutions. This suggests that women's active employment is closely connected to the available and accessible childcare infrastructure.

While discussing the potential solutions to the issue of childcare in Lithuania, Braziene and Daukantiene are very critical about the currently dominant policy of support for the family through direct payments. This type of measure reinforces traditional gender roles in family and society (because most often mothers stay with the children) and aggravates the return of women to the labour market. The authors suggest that the efficiency of indirect family support (for example, flexible working arrangements) would open greater opportunities for women and men to reconcile family and work roles, reduce stress for women who take care of children while working and have a positive impact on birth rates. This leads to the



conclusion that labour market participation of women could be better ensured by developing childcare infrastructure and ensuring childcare service quality and accessibility (Braziene and Daukantiene, 2010).

Conclusions

In Lithuania, descriptive analysis of gender-disaggregated statistical data is the key methodological approach to examine gender issues in the economic sphere and more precisely in the labour market. There are no studies that focus on macroeconomic modelling of the economic impact of gender equality. Most quantitative research is completed at microeconomic level by descriptive analysis of data collected through surveys and questionnaires, and usually measures awareness of (un)equal conditions and opportunities of women and men in the labour market. There is also some qualitative research (interviews) that tries to identify economic, social, cultural and institutional factors that hinder gender equality at microeconomic level.

One of the key findings of most of the studies is that excessive engagement of women in the reproductive economic field (care economy) considerably hinders their potential and opportunities in the productive sphere of the economy (Braziene and Daukantiene, 2010; Streimkiene and Kausienie, 2014; Braziene, 2002). Studies that compare aggregate gender statistics provide evidence of employment gaps, pay gaps, segregation of the labour market along gender lines and gaps in economic and political decision-making (Rakauskiene et al., 2014; Braziene and Daukantiene, 2010; Krinickiene, 2014; Braziene and Luobikiene, 2002; Grybaite, 2006; Guščinskienė and Čiburienė, 2009; Sidlauskiene and Pocevicienė, 2015). Limited development in reconciliation of family and work and insufficient childcare infrastructure were highlighted as key obstacles for younger women to participate in the labour market (Braziene and Daukantiene, 2010). This has a negative impact on women's economic autonomy, well-being of families and social integration. Persistent gender stereotypes are commonly identified (Braziene and Luobikiene, 2002; Braziene and Daukantiene, 2010; Sidlauskiene and Pocevicienė, 2015; Streimkiene and Kausienie et al., 2014) as a key obstacle to enhancing gender equality in Lithuania.

Some research also indicates that the state should be more proactive in implementing the measures for mainstreaming gender at all policy levels (Krinickiene, 2014).

Bibliography

Braziene, R. and Daukantiene, N. (2010), 'Accessibility to Childcare Facilities, Gender, and Reconciliation of Work and Family Life in Lithuania', *Socialiniai tyrimai*, Vol. 1, No 18, pp. 53-62.

Braziene, R. and Luobikiene, I. (2002), 'Profesinė lyčių segregacija ir ją įtakojantys veiksniai Lietuvoje' (Professional Gender Segregation and Influencing Factors in Lithuania), *Pedagogika*, Vol. 18, pp. 18-24.

Daukantiene, N. (2006), 'Darbo rinkos pokyčiai Lietuvoje: Moterų ir vyrų padėties aspektai' (Changes in Lithuanian Labour Market: The Aspects of Women's and Men's Position), *Filosofija. Sociologija*, No 4, pp. 46-54.

Dromantaitė-Stančikienė, A. and Gineitienė, Z. (2010), 'Moterų padėtis Lietuvoje siekiant karjeros' (Situation of Women Seeking a Career in Lithuania), *Socialinių mokslų studijos*, Vol. 4, No 8, pp. 69-88.

Grybaite, V. (2006), 'Lyčių lygybė darbo rinkoje: moterų ir vyrų darbo užmokesčio skirtumai' (Gender Equality in Labour Market: Pay Gap between Women and Men), *Verslas: teorija ir praktika*, Vol. 7, No 3, pp. 168-173.

Guščinskienė, J. and Čiburienė, J. (2009), 'Darbo rinka Lietuvoje: moterų ir vyrų padėtis' (Labour market in Lithuania: Gender Situation), *Verslas, vadyba ir studijos*, pp. 271-284.

Kanopienė, V. (2005), 'Moterų užimtumas Lietuvoje: ES kontekste' (Women's Employment in Lithuania: EU Context), *Socialinis darbas*, Vol. 4, No 2, pp. 5-12, available at: https://www.mruni.eu/upload/iblock/5ca/1_kanopiene.pdf

Krinickiene, E. (2014), 'Lyčių aspekto poveikio ekonominei politikai vertinimas: Lietuvos atvejis' (Assessment of the impact of the gender aspect on economic policy: Lithuania's case), PhD thesis, Mykolo Romerio universitetas, Vilnius.

Rakauskienė, O. G. et al. (2014), *Lyčių ekonomika. Monografija* (Gendered Economics). Mykolo Romerio Univesitetas, Vilnius.

Ššidlauskienė, V. and Pocevičienė, R. (2014), 'Pažeidžiamos moterų grupės padėtis užimtumo srityje' (Status of Vulnerable Women's Groups in the Employment Area), *Lyčių studijos ir tyrimai*, Vol. 12, pp. 72-106.

Šidlauskienė, V. and Pocevičienė, R. (2015), *Motery ir vyrų padėties skirtumų mažinimas ekonominių sprendimų priėmimo Lietuvoje* (Reduction of Differences of Conditions between Women and Men in the Context of Economic Decision-Making in Lithuania: Research Report), Tyrimo ataskaita.

Štreimikienė, D. and Kiaušienė, I. (2014), 'Lyčių dalyvavimo darbo rinkoje vertinimas Lietuvoje' (Assessment of Gender Participation in Labour Market), in Rakauskienė O. G. et al. (eds.), *Lyčių ekonomika. Monografija* (Gendered Economics), Mykolo Romerio Univesitetas, Vilnius, pp. 287-356.

Reingardienė (ed.) (2006), (Ne)apmokamas darbas: šeimai palanki darbo aplinka ir lyčių lygybė Europoje (Un)paid-Work: Family-Friendly Work Environment and Gender Equality in Europe), STI, Vytauto Džiojo Universitetas, Vilnius, pp. 47-103.

Stankūnienė, V. and Maslauskaitė, A. (2009), 'Lietuvos šeima: tarp tradicijos ir naujos realybės' (Lithuanian Family: Between Tradition and New Realities), STI, Vilnius.



Luxembourg

This factsheet provides an overview of available national evidence of the economic outcomes of gender equality in the areas of labour market participation, pay gap and violence against women.

According to the Global Gender Gap Index from the World Economic Forum, Luxembourg is ranked 28 out of 142 countries and scores 0.733, where 1 equals full gender equality⁽⁴⁴⁾. Luxembourg had an overall score of 55.2 in the Gender Equality Index in 2012⁽⁴⁵⁾, where a score of 100 indicates full gender equality.

The main focus of quantitative research was gender pay gaps, as men still earned on average 8.6 % more than women in 2014 according to Eurostat. In terms of macroeconomic studies, a few studies from the Statistics Portal of Luxembourg aim to assess gender and income inequalities (Allegrezza et al., 2007 and Ries, 2009). Both papers analyse the standard factors that could explain the wage differential between genders.

There are also additional statistical studies which try to explore the condition of women in the Luxembourg labour market (Zahlen, 2013a, 2013b). These studies focus respectively on impacts of children in the household and the level of education on women's employment rate and part-time jobs.

Summary table of quantitative studies on economic benefits of gender equality

Area of gender equality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
Labour market participation	Earnings Employment	In general, studies explore the causes of the gender employment gap, but do not analyse its impact on the economy of the Grand Duchy. <ul style="list-style-type: none"> ■ Maternity has a 'moderate effect' on women's participation in the Luxembourgish labour market (Zahlen, 2013a). ■ 33.9 % of Luxembourgish women worked part-time in 2012. Combining work and parenthood is the main reason explaining the choice of part-time employment (Zahlen, 2013b). 	Descriptive statistics and qualitative analysis <i>Source:</i> Statec publications — National Institute for Statistics.
Gender pay gap	Gender pay gap	There were two studies exploring the causes of gender pay gaps, but none of them analysed their impact on macroeconomic performance.	Descriptive statistics <i>Source:</i> EU LFS and investigation of wage structure in Luxembourg (2010)
Violence against women	Cost to the economy	There is a potential for savings from reduction of violence against women (MEGA, 2015). The Ministry for Equal Opportunities reveals that EUR 11 769 533 of its 2014 budget is allocated to the functioning of centres for women victims of violence (out of a total budget of EUR 13 198 877 — 89 %).	<i>Source:</i> budget for the Ministry for Equal Opportunities.

Overview of research methods used

There is no study in Luxembourg that focuses on rigorous macroeconomic modelling of the economic impacts of gender (in)equality. The method used by both Allegrezza et al. (2007) and Ries (2009) is the decomposition method,

which looks at parameters that have an impact on income and tries to identify those with a discrimination effect on income disparities. While Allegrezza et al. (2007) used a method not based on the male wage structure as the competitive standard (the Oaxaca-Ransom model)⁽⁴⁶⁾ in order to be closer to what the Luxembourgish labour market looks like, Ries (2009) used a model inspired by Melly (2005, 2006) and Machado and Mata (2005) based on quantile regression.

⁽⁴⁴⁾ See World Economic Forum, available at: <http://reports.weforum.org/global-gender-gap-report-2014/economies/#economy=LUX> [accessed 1 March 2016].

⁽⁴⁵⁾ See the European Institute for Gender Equality, available at <http://eige.europa.eu/gender-statistics/gender-equality-index/2012/LU> [accessed 27 April 2016].

⁽⁴⁶⁾ Oaxaca, R. and Ransom, M. (1994), 'On discrimination and the decomposition of wage differentials', *Journal of Econometrics*, Vol. 61, pp. 5-21.



Therefore, the latter focuses more on wage distribution according to the quantile rather than the gender.

In addition, Allegrezza et al. (2007) made reference to the Gini coefficient to assess income inequality by gender. The remaining studies typically use simple quantitative analysis to assess the employment rate and part-time job of women according to the number of children in the household and their level of education.

The data sources used include the Structure of Earnings Survey from the Statistics Portal in Luxembourg for the years 1995, 2002, 2006 and 2012.

How does gender equality affect economic outcomes?

In Luxembourg, the gender pay gap was 8.6 % in 2014 according to Eurostat, meaning that the gross hourly earnings of men paid employees were higher by 8.6 % compared to women paid employees. In 2010 the average wage received by women working full-time was about EUR 52 292 compared to EUR 57 742 for men. Interestingly, the median salary for women working full-time was slightly higher than for men, respectively EUR 45 767 against EUR 44 224. This could be explained by the fact that women are working in sectors with a higher salary compared to men, who may work in sectors with lower wages⁽⁴⁷⁾.

As already mentioned, Allegrezza et al. (2007) used the Oaxaca-Ransom model for the decomposition of salary and the differences relating to the observed variables (such as age, seniority, differences in education attainment or experience) to explain 51 % of the income disparity. The 'unexplained' part still accounts for almost half of the income gap observed (namely 49 %), which could be outright discrimination against women.

Having children was also found to influence the employment rate of women. However, in Luxembourg it has been observed that the employment rate is higher for women with children than without. Zahlen (2013a) reported that in 2012 the employment rate of women living in a couple with children was 70.1 % compared to 60.7 % for women living in a couple without children. This positive effect fades when the number of children in the household reaches three (with an employment rate of 55.5 %). In 2014, this employment rate was about 60.2 % for women aged 15 to 64 with three children, compared to 72.5 % of women with

one child⁽⁴⁸⁾. Overall, maternity has a 'moderate effect' on women's participation in the Luxembourgish labour market according to the author of the study.

Even though 33.9 % of Luxembourgish women worked part-time in 2015, this rate has not significantly increased since 2004 (36.4 % in 2004)⁽⁴⁹⁾. It has been observed (Zahlen, 2013b) that 13.7 % of women from Luxembourg in part-time jobs are in this situation because they could not find a full-time job. Combining work and parenthood is the main reason explaining the choice for part-time employment. Having children therefore has a small impact on the employment rate for women, but influences the level of women having part-time roles. In addition, the level of education can influence the share of women working part-time (Zahlen, 2013b). It has been observed that the proportion of people working part-time with a high level of education is smaller than for people with a low level of education. In 2012, among the population with a part-time job, 24.9 % had a low level of education compared to 13.3 % of people with a high level of education.

While these studies explore the causes of gender employment and pay gaps, they do not analyse their impact on the economy of the Grand Duchy. There is no other national research that indicates what impacts gender and employment pay gaps have on economic performance.

In addition to the main factors limiting participation of women in the labour market, the government reports that only 20 % of women are part of the board of directors of companies based in Luxembourg⁽⁵⁰⁾.

Key macroeconomic impacts of gender equality

The study carried out by the CSL (2010) on monetary poverty, inequality and life conditions in Luxembourg reported that poverty does not differ much by gender. Women are thought to be slightly more affected by poverty risk, but only by 1 percentage point in Luxembourg in 2008 (14 % for women and 13 % for men). Both age and the level of education have a bigger impact on that variable than gender.

⁽⁴⁷⁾ Statec (2012), available at: <http://www.statistiques.public.lu/catalogue-publications/bulletin-Statec/2012/PDF-Bulletin2-2012.pdf> [accessed 1 March 2016].

⁽⁴⁸⁾ Eurostat data, Employment rate of adults by sex, age groups, educational attainment level, number of children and age of youngest child (%) [lfsi_hheredch]. Last update: 08.02.2016 [accessed 28 April 2016].

⁽⁴⁹⁾ Part-time employment and temporary contracts — Annual data [lfsi_pt_a]. Last update: 25.04.2016 [accessed 28 April 2016].

⁽⁵⁰⁾ See Ministry for Equal Opportunities, available at: <http://www.mega.public.lu/fr/campagnes/egalite-travail/2013/appel-candidature/megapower-depliant.pdf> [accessed 1 March 2016].

Besides the risk of poverty that could impact the overall economy of the country, there is a less sizeable but still significant potential saving that can result from reduction of violence against women (MEGA, 2015). The Ministry for Equal Opportunities reveals that EUR 11 769 533 of its 2014 budget was allocated to the functioning of centres for women victims of violence (out of a total budget of EUR 13 198 877 — 89 %).

The available research did not discuss in detail how outcomes of gender inequality affects sustainability of labour market outcomes and public budgets. Similarly, it did not discuss if outcomes of gender inequality disproportionately affect certain vulnerable groups of population, such as ethnic minorities.

Conclusions

Besides the Grand Ducal regulation of 10 July 1974 guaranteeing wage equality between women and men, the Luxembourgish government is putting in place measures to increase equality between women and men ⁽⁵¹⁾ in terms of employment, domestic violence and governance. However, no macroeconomic papers were found to underline the economic benefits of these elements in achieving gender equality.

Bibliography

Allegrezza et al. (2007), 'Egalité hommes-femmes, mythe ou réalité?', *Statec, Cahier économique*, 105.

CSL (2010), 'Pauvreté monétaire, inégalités et conditions de vie au Luxembourg', *Dialogue Analyse 1, Chambre des salariés*, Luxembourg.

MEGA (2015), *Rapport d'activité 2014*, Ministry for Equal Opportunities.

Oaxaca, R. and Ransom, M. (1994), 'On discrimination and the decomposition of wage differentials', *Journal of Econometrics*, Vol. 61, pp. 5-21.

Ries, J. (2009), 'La distribution des salaires au Luxembourg en 1995 et en 2006: Structure et évolution', *Statec, Economie et Statistiques*, 31.

Statec (2012), *Bulletin du Statec. Salaires, emploi et conditions de travail. Premiers résultats de l'enquête sur la structure des salaires de 2010*.

Zahlen, P. (2013a), 'Le taux d'emploi', *Statec, Regards*, 16.

Zahlen, P. (2013b), 'L'emploi à temps partiel', *Statec, Regards*, 17.

⁽⁵¹⁾ See Ministry for Equal Opportunities, available at <http://www.mega.public.lu/fr/publications/publications-ministere/2015/pan-egalite-2015/index.html> [accessed 1 March 2016].



Hungary

This factsheet provides an overview of available national evidence of the economic outcomes of gender equality in the areas of labour market participation and pay gap.

There have been no recent studies that use quantitative methods to estimate the macroeconomic benefits of gender equality in Hungary. If this topic has been addressed, it is done in a qualitative manner, for example from the point of view of gender budgeting.

However, a number of studies have been published in the last 15 years in the field of empirical labour economics that use micro-econometric methods to analyse the causes of gender inequality. We found nine studies that primarily look at income and labour force participation differences between women and men in Hungary, and estimate the impact of a variety of factors (including occupational segregation and childcare).

Summary table of quantitative studies on economic benefits of gender equality

Area of gender equality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
Labour market participation	Labour force participation rate	If nursery school capacity reached similar levels as kindergartens: the LFPR of women with children aged 2 to 3 would rise by about 10 percentage points (Lovász and Szabó-Morvai, 2015).	Fuzzy regression discontinuity design (combined with difference-in-differences) <i>Data sources:</i> Hungarian LFS.
Gender pay gap	Gender pay gap	No evidence of macroeconomic impact; several studies provided micro-level evidence on the factors behind the GPG (Galasi, 2002; Lovász, 2013; Sík et. al.; 2011, Lovász and Rigó, 2011; Lovász, 2011).	Micro-econometric analysis <i>Data sources:</i> Hungarian Household Budget Survey (HCSO); Wage Survey (NEO).

Overview of research methods used

The micro-econometric studies assessing the causes of gender inequality use a wide variety of methods.

A first group of studies uses regression techniques (OLS for wages and probit for participation) and Oaxaca-Blinder type decompositions to study the factors that contribute to differences in earnings or participation probabilities (Galasi, 2002; Lovász, 2013; Sík et. al., 2011). These studies account for the most relevant observable factors. However, the quality of the analysis is limited by the lack of access to more detailed data (for example, about detailed job characteristics).

A second group of studies use matched employer–employee data to circumvent the usual omitted variable problem, and estimate (firm-level) production functions and wage equations simultaneously (Lovász and Rigó, 2011) or firm-level residual gender wage gaps (Lovász, 2011). These studies rely on some relatively strong and untestable assumptions to identify ‘gender discrimination’.

A third group of studies corrects for self-selection into the labour market (and parenthood) when estimating wage equations (Cukrowska and Lovász, 2016; Galasi and Nagy, 2003). Since these studies do not have access to good-quality data, it is difficult to assess the maintained assumptions needed to identify these models.

A comparative study (Cukrowska and Torzewska, 2016) uses panel data techniques (fixed effect models) to account for non-random selection into parenthood when estimating the effect of motherhood on employment and wages.

Finally, one recent study (Lovász and Szabó-Morvai, 2015) builds on an advanced quantitative methodology to estimate the effect of childcare availability on maternal labour supply. The authors use a combination of (fuzzy) regression discontinuity and difference-in-difference methods. The identification strategy of this last study is arguably of the highest quality.

The data sources used include large-sample household datasets collected by the Hungarian Central Statistical Office (Labour Force Survey; Household Budget Survey; EU Statistics on Income and Living Conditions); a smaller household survey (the Household Monitor, collected by TÁRKI); and a large employer-based administrative dataset (the Wage and Employment Survey of the National Employment Office). All of these data are collected with rigorous sampling techniques and with validated, high-quality questionnaires.

How does gender equality affect economic outcomes?

The studies found that women’s participation and employment rates are low in Hungary (relative to the EU average)



and lag behind those of men. In 2014 the employment rate of women aged 15-64 stood at 55.5 % and the participation rate was 63.1 %, while the same figures for men were 67.3 % and 76 % respectively (Hungarian Labour Force Survey, http://www.bpdata.eu/mpt/2015ent03_08). Galasi (2003) analysed the gap in participation rates between women and men in the period 1992-2000 and found that up to half of the gap is due to the negative consequences of child rearing for women. Cukrowska and Torzewska (2016) show that the employment penalty associated with motherhood in Hungary is the highest in the EU, amounting to a 58 percentage point difference between the employment rates of women with and without dependent children (in the period 2003-2012).

Hungary is one of the EU countries with the longest paid maternity leave period in the EU, which lasts until the child's third birthday. Kindergarten coverage is also high, reaching around 75 % of children of pre-school age who are older than three. However, subsidised nursery school coverage for children under the age of three is very low, at around 10 %. Lovász and Szabó-Morvai (2015) estimate that close to one third of the 31 percentage point difference between the participation rate of mothers with children just above 3 years of age (51 %) and those with children just below 3 years of age (20 %) can be attributed to the difference in coverage rates between nursery schools and kindergartens. They thus conclude that one of the major factors limiting the labour supply of women with young children in Hungary is the lack of affordable childcare services.

The gender wage gap is relatively modest in Hungary: women earned on average 15.1 % less than men (per hour) in 2014 according to Eurostat. The glass-ceiling effect is present in Hungary, as the gender wage gap is more than five times larger among high earners than among low earners (Sík et. al, 2011). The gap is slightly smaller in the public sector (Lovász, 2013) and while occupational gender segregation is pronounced in Hungary, this explains only a small portion of the gender wage gap (Lovász, 2013). Gender differences in observable characteristics do not explain the gender wage gap. Lovász and Rigó (2011) have found evidence that the gender wage gap is likely due to discrimination, and Lovász (2011) shows that firm-level residual gender wage gaps — the GWG adjusted for observable productive characteristics — decrease in industries where product market competition increases. This latter finding is in line with the implication of Gary Becker's model of employer taste discrimination, i.e. that employers which discriminate against women may be forced out of the market

by competition in the long run, leading to a fall in the gender wage gap⁽⁵²⁾.

Since the gap in employment rates across women and men is the most pronounced among parents with children, Cukrowska and Lovász (2016) set out to model simultaneously selection into parenthood and employment when estimating the wage gap between women and men⁽⁵³⁾. Their work points to several important conclusions. First, that the gender wage gap is primarily due to the 'family gap' in wages, meaning that women face a wage penalty for having had children (accounting for just above 50 % of the gender wage gap), while there is no significant wage gap between childless women and men. Second, the 'family gap' in wages is partly due to selection into parenthood based on observable characteristics, but also due to differences in returns to human capital across childless individuals and parents. Finally, selection based on unobservable characteristics into employment and parenthood has a small but non-negligible influence on the gender wage gap.

A final factor of gender inequality in Hungary is that women perform much more unpaid work than men. Galasi and Nagy (2003) report that women worked on average 115 hours, while men worked 43 hours per month without pay in 2000⁽⁵⁴⁾. They estimated the value of both paid and unpaid working time and found that while the value of paid work is 27 % higher for men, the value of unpaid work performed by men is only 41 % that of women. Thus the total value of paid and unpaid work is slightly higher for women than for men, by about 5 %.

Key macroeconomic impacts of gender equality

As noted above, there are no quantitative studies looking at macro impacts of gender equality in Hungary. However, the research on availability of nursery care (Lovász and Szabó-Morvai, 2015) estimated that almost one third of the labour market participation gap between mothers with children aged 4 to 5 and those with children aged 2 to 3 can be attributed to the difference in the low coverage rate of nursery schools and kindergartens. Thus the authors concluded that the lack of affordable childcare services is one of the major factors limiting the labour supply of women with young children in Hungary.

⁽⁵²⁾ The studies reported above use the National Employment Service's Wage Survey. For a description, please see http://adatbank.krtk.mta.hu/adatbazisok___bertarifa

⁽⁵³⁾ The authors use the Household Budget Surveys from Hungary and Poland, for years 2006-2009 and 2005-2009 respectively.

⁽⁵⁴⁾ This study is based on the TÁRKI Household Monitor.

The microeconomic research focusing on wage inequalities did not attempt to link these to macroeconomic outcomes.

Conclusions

While women are still likely to suffer from (wage) discrimination in the labour market, the most important factor in determining women's labour market outcomes is the large employment penalty associated with raising young children. The results reviewed suggest that raising the number of subsidised nursery school places would largely contribute to women's increased labour market participation in Hungary. Some authors performing back-of-the-envelope calculations suggest that under modest assumptions, such a policy would be cost-efficient in the medium to long run (Scharle et. al., 2009).

Bibliography

Cukrowska-Torzewska, E. (2016), *Comparative analysis of the motherhood gap in employment and wages: The role of family policies and their interaction*, Budapest Working Papers on the Labour Market (No 2016/1).

Cukrowska-Torzewska, E. and Lovász, A. (2016), 'Are children driving the gender wage gap?', *Economics of Transition*, Vol. 24, pp. 259-297.

Galasi, P. (2002), 'A decomposition of the gender gap in participation rates' [in Hungarian], in Fazekas, K. (ed.), *Munkaerőpiaci Tükör*, Institute of Economics, Hungarian Academy of Sciences, Budapest, pp. 127-134.

Galasi, P. and Nagy Gy. (2003), 'The value of paid and unpaid labour', in Fazekas, K. and Koltay, J. (eds.), *The Hungarian Labour Market 2003*, Institute of Economics, Hungarian Academy of Sciences, Budapest, pp. 68-80.

Lovász, A. (2011), 'The effect of competition on the gender wage gap in Hungary 1986-2003', in Fazekas, K., (ed.), *The Hungarian Labour Market 2010*, Institute of Economics, Hungarian Academy of Sciences, Budapest, pp. 151-161.

Lovász, A. (2013), *Do women have better opportunities in the public sector? The gender wage gap and occupational segregation in the public and private sectors* [in Hungarian], Budapest Working Papers on the Labour Market (No 2013/2).

Lovász, A. and Rigó, M. (2011), Estimation of the relative productivity and wages of women compared to men in Hungary, in Fazekas, K. (ed.), *The Hungarian Labour Market 2010*,

Institute of Economics, Hungarian Academy of Sciences, Budapest, pp. 161-173.

Lovász, A. and Szabó-Morvai, Á. (2015), *Does Subsidised Childcare Matter for Maternal Labor Supply?*, HÉTFA Working Paper (No 2015/9).

Scharle, Á., Reszkető, P. and Váradi, B. (2011), 'Increasing the daycare for children under age 3: Goals, policies and expected social effects' [in Hungarian], in Nagy, I. and Pongrácz T. (eds.), *Szerepváltozások. Jelentés a nők és férfiak helyzetéről 2011*, TÁRKI Budapest, pp. 71-191.

Sík, E., Csaba, D. and Hann, A. (2011), *Inequality of earnings between women and men and gender segregation in Hungary today* [in Hungarian], Equal Treatment Authority, Budapest.



Malta

This factsheet provides an overview of available national evidence of the economic outcomes of gender equality in the areas of labour market participation and violence against women.

In Malta, no studies have been identified that use advanced statistical methods to assess the economic impacts and benefits of gender equality at national level. However, there is a microeconomic study that makes use of economic modelling in order to explore the factors affecting women's decision to work (Caruana, 2006). Furthermore, some studies make use of more descriptive quantitative analysis of national data in order to explore the economic impacts of gender equalities in general terms (Commission on Domestic Violence, 2011; NCPE, 2012).

A range of additional qualitative studies and descriptive quantitative studies exist, considering issues such as the employment motivations of women (Employment and Training Corporation, 2007), the level of 'Europeanisation' of the Maltese labour market (Azzopardi, 2013), and the role of part-time employment (Vella, 2008). While some studies discuss the advantages of gender equality, they do so less from an economic perspective, and so have been excluded from this analysis. Likewise, there are some articles that explore gender differences in the incidence of health conditions (Scerri and Scerri, 2012; Grecha et al., 2001) or in self-reported health and use of medicines (Ellul et al., 2009), but these do not discuss economic impacts of any gender differences identified, so have been excluded due to limited relevance.

Summary table of quantitative studies on economic benefits of gender equality

Area of gender equality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
Labour market participation	Employment Economic growth	No evidence of macroeconomic impacts. One study (NCPE, 2012) ⁽⁵³⁾ argues that Malta is paying a high economic cost due to the low employment of women, as this decreases government revenue, undermines pension sustainability and holds back economic growth (although no quantitative calculation of the costs is provided). One microeconomic study uses economic modelling to explore the factors affecting women's decision to work (Caruana, 2006). It found that increased availability of part-time and short-term employment opportunities significantly increased the share of women who decided to look for work. The former enabled women to better combine family life and work and the latter increased their chance of finding work once they decided to look for a job.	OLS method of regression (Caruana, 2006); description of quantitative survey data (no econometric methods) (NCPE, 2012) <i>Sources:</i> Labour Force Surveys (national and Eurostat); other large-scale quantitative surveys.
Violence against women	Employment of women	One study finds some evidence for the negative effects of domestic violence on the employment of women: Of the women respondents who had experienced physical violence at the hands of their partner/husband, 4 % stated that their husband would have prevented their employment, 10 % reported that violence had resulted in the disruption of their employment or other income-generating activities, and 1.5 % reported that they had lost their employment due to their husband/partner's intimidation of their employer.	Description of quantitative survey data (no econometric methods) <i>Data source:</i> nationally representative survey of women.

⁽⁵⁵⁾ Based on a mix of quantitative and qualitative research methods (including large-scale quantitative



Overview of research methods used

The economic benefits of gender equality are a little-explored topic in Malta. Where such benefits are mentioned, they are discussed in general terms without being quantified. More generally, econometric modelling is relatively uncommon when exploring gender equality topics.

Although not directly exploring economic benefits, in one microeconomic study (Caruana, 2006), the author explores the factors that can affect the size of the female labour force. The author's econometric model expresses the 'female participation rate (i.e. number of females in the labour force as a proportion of the population aged 15-64 years) as a function of the working age population, the unemployment rate, the real minimum wage rate, the share of females with a part-time job as a primary occupation to the total female working age population, and the crude birth rate'.

There are some shortcomings in relation to this model, namely: that a lack of wage data prevented the author from using a more appropriate net wage variable; the crude birth rate is unlikely to capture the complex range of attitudinal factors that influence women's employment; there may be some simultaneous bias in the equation; and the role of part-time employment is debated as to its role in supporting women's career progression.

The findings from this study are presented in the next section.

How does gender equality affect economic outcomes?

A few studies link gender (in)equality to economic outcomes, mainly exploring the areas of the labour market and violence against women in Malta.

One study (Commission on Domestic Violence, 2011) explored the prevalence of domestic violence against women and the impact that this has on the employment prospects of women. It does so through analysing a nationally representative survey of 1 200 women. The study found some evidence for the negative effects of domestic violence on the employment of women (a direct economic impact that changes the labour supply). In all, 140 respondents reported experiencing physical violence at the hands of their partner/husband; of these, 4 % stated that their husband would have prevented their employment, 10 % reported that violence had resulted in the disruption of their employment or other income-generating activities, and 1.5 % reported that they had lost their employment due to their husband/partner's intimidation of their employer. However, the statistical robustness of these findings is limited.

Considering the factors that influence the decision of women in Malta to work, the key findings from the econometric model described above (Caruana, 2006) were as follows:

- The coefficient on the unemployment rate was negative and statistically significant, implying that women's participation may decrease as short-term employment opportunities decrease (i.e. the 'discouraged worker' effect).
- The availability of part-time employment impacted women's participation rates positively and was statistically significant. This matched the assumption that greater work flexibility can make women more likely to combine domestic tasks with paid work.
- There was a positive relationship between wage rates and women's labour force participation rate, though this was not statistically significant at the 95 % confidence level. This may relate to the data availability issues explained above.
- Women's labour force participation increases as the crude birth rate decreases, and the relationship is statistically significant. The author saw this as a proxy for attitudinal developments.

There are some other studies of interest, although with limited quantitative evidence. In the area of domestic violence, another study (Zad, 2013) explores the connections between domestic violence against women, women's disempowerment and homelessness in Malta, through descriptive analysis of survey data and in-depth interviews. However, this research does not seek to quantify the public costs of homelessness and the potential savings associated with reducing the incidence of homelessness among women in Malta.

Considering the labour market, one study (Cacciottolo, 2015) considers the impacts of the 'feminisation' of the medical profession in Malta, but cites only the social benefits of the trend (differences in the approach of women and men doctors towards patients). The study actually highlights a potential economic cost of this trend, in that the medical sector may need to accommodate greater part-time working. However, this point is not supported by any quantitative evidence.

In the area of education, one study (Bezzina, 2010) examines gender differences in mathematics performance and the self-regulated learning (SRL) techniques, but it does not consider equality issues such as the impact of gender imbalance in STEM subjects.

Key macroeconomic impacts of gender equality

There is no identified econometric research that precisely quantifies the impacts of gender equality on macroeconomic indicators, such as GDP, productivity, employment, consumption, innovation or others.

One study (NCPE, 2012) ⁽⁵⁶⁾ argues that Malta is paying a high economic cost due to the low employment of women (the employment rate was only 53.6 % in 2015 according to Eurostat), as this decreases government revenue, undermines pension sustainability and holds back economic growth. However, the study does not attempt to make a quantitative calculation of the scale of the cost.

Conclusions

Malta is characterised by one of the lowest women's employment rates in Europe: whereas the average employment rate of women (aged 20 to 64) in the EU was 64.3 % in 2015, for Malta it was 53.6 % ⁽⁵⁷⁾. In 2014, there was a major expansion of free childcare provision in the country (European Commission, 2015), largely with the objective of supporting working mothers. However, the use of econometric techniques to model the scale of the costs associated with women's employment is extremely limited; furthermore, there are no cost-benefit analyses or quantitative impact assessments of the new childcare policy. These are areas that could likely benefit from greater attention in the future.

Bibliography

Azzopardi, R. M. (2013), 'All Hands on Deck! How Europeanised Is the Maltese Labour Market?', *South European Society and Politics*, Vol. 18, No 2, pp. 177-196.

Bezzina, F. H. (2010), 'Investigating gender differences in mathematics performance and in self-regulated learning: An empirical study from Malta', *Equality, Diversity and Inclusion: An International Journal*, Vol. 29, No 7, pp. 669-693.

Cacciottolo, J. (2015), 'Feminization of the medical profession in Malta', *Malta Medical Journal*, Vol. 27, No 1.

Caruana, K. (2006), 'Female Labour Market Participation in Malta: A Lisbon Agenda perspective', *Bank of Valletta Review*, No 33.

Commission on Domestic Violence (2011), *A Nationwide Research Study on the Prevalence of Domestic Violence against Women in Malta and Its Impact on their Employment Prospects*.

Ellul, R. D., Cordina, M., Buhagiar, A., Fenech, A. and Mifsud, J. (2009), 'An analysis of gender differences in self-reported health, use of medicines and access to information sources about medicines among adolescents', *International Journal Of Adolescent Medicine and Health*, Vol. 21, No 4, pp. 591-600.

Employment and Training Corporation (2007), *Women and work: Findings from a study on the work aspirations of Maltese women*.

European Commission (2015), *Executive Summary from Peer Review on 'Making work pay for mothers'*, 18-19 May 2015, St Julian's (Malta).

National Commission for the Promotion of Equality (2012), *Unlocking the Female Potential*.

Scerri, A. and Scerri, C. (2012), 'Dementia in Malta: new prevalence estimates and projected trends', *Malta Medical Journal*, Vol. 24, No 3.

Grecha, V., Aquilina, O. and Pacec, J. (2001), 'Gender differences in seasonality of acute myocardial infarction admissions and mortality in a population-based study', *J. Epidemiol Community Health*, Vol. 55, No 2, pp. 147-148.

Vella, L. (2008), 'Part-Time Employment and Social Legislation in Malta', *Bank of Valletta Review*, No 38.

Zad, C. V. (2013), *Domestic Violence and the Feminization of Homelessness in Malta: A Critical Perspective*.

⁽⁵⁶⁾ Based on a mix of quantitative and qualitative research methods (including large-scale quantitative surveys but not using advanced econometric analysis).

⁽⁵⁷⁾ Behind only Greece (46 %) and Italy (50.6 %). True as of 3 May 2016. See Eurostat, Employment and activity by sex and age — Annual data [lfsi_emp_a].



Netherlands



This factsheet provides an overview of available national evidence of the economic outcomes of gender equality in the areas of labour market participation, pay gap and violence against women.

In the Global Gender Gap Report 2015 ⁽⁵⁸⁾ of the World Economic Forum, the Netherlands ranked 13th (out of 145) with a score of 0.776 (out of 1). It ranks 39th in economic participation and opportunity, 1st in educational attainment, 104th in health and survival and 13th in political empowerment. In the EU's Gender Equality Index, the Netherlands ranked 4th (behind Sweden, Finland and Denmark)

with a score of 68.5 (out of 100) for 2012, the latest year available. The country scored especially highly in the areas of financial resources and economic situation, time use (care and social), and knowledge ⁽⁵⁹⁾.

In the Netherlands there are a few descriptive studies and surveys about the relationship between gender and business performance and economic independence. The studies identified cover labour market participation, wage gaps, gender diversity and firm performance, women–men differences in the intensity of economic independence, the relationship between health factors and labour market access.

Summary table of quantitative studies on economic benefits of gender equality

Area of gender equality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
Labour market participation	Employment Government budget	A 2011 <i>ex post</i> study (Jongen et al., 2011) concluded that a rise in the country's childcare allowance resulted in higher employment rates of medium and highly educated women with young children (by 3.3 % in 2008-2009) and also led to women working more hours (6.6 % in the same period), with no effect for women with lower educational attainment. Another study found that in the long run other fiscal stimuli (tax breaks) are more effective than subsidies in promoting formal childcare for children (Nationaal Werkonderzoek, 2012).	Difference-in-difference analysis <i>Data source:</i> labour market survey data.
Gender pay gap	Gender pay gap	One study on income gaps (Albrecht et al., 2004) analysed the role of selection effects in gender pay gaps, but did not explore their macroeconomic consequences.	Micro-econometric analysis <i>Data sources:</i> survey data.
Violence against women	Cost to the economy	In 1997, the costs of (severe) physical violence of men against women were estimated at EUR 280 million per year (Korf, 1997). In a 2010 study it was found that the direct costs to employers of work absenteeism was between EUR 74 and 192 million per year (Visee and Homurg, 2010).	Cost analysis <i>Data sources:</i> survey, cost data from multiple administrative public and private sources.

Overview of research methods used

There are few studies in Netherlands employing rigorous statistical modelling of the economic impacts of gender equality. Some studies (i.e. Albrecht et al., 2004) use or build on principles of the Blinder-Oaxaca decomposition method, consider parameters which have an impact on income and try to identify those with a discrimination effect on income inequalities. However, this method is used to assess the factors explaining differences rather than exploring the economic consequences resulting from them.

The National Statistics Office (CBS) and the Social Cultural Planning Office (SCP) carried out a significant number of studies that focus on gender-related issues, including pay gap, employment, risk of poverty and other socioeconomic differences.

These studies typically use large national survey datasets and a wide array of national datasets (including EU Statistics on Income and Living Conditions (SILC), the national survey of living conditions and national datasets such as Income Panel Research, the Social Statistical File, Permanent

⁽⁵⁸⁾ World Economic Forum, available at: <http://www3.weforum.org/docs/GGGR2015/cover.pdf>

⁽⁵⁹⁾ EIGE Gender Equality Index 2012, available at: <http://eige.europa.eu/gender-statistics/gender-equality-index/2012/NL>



Research of Social Conditions) to perform simple quantitative analysis mixed with qualitative research. They often assess gender differences for indicators such as employment, risk of poverty and wage differences. They do not tend to focus extensively on the economic impacts of these, and, when they do, it is usually in a qualitative manner.

There are several other studies that use more advanced statistical methods, including regression analyses (Albrecht et al., 2004; Marinova et al., 2010). However, these studies are often rather descriptive. There is limited analysis of the economic benefits of gender equality and wider economic impacts of gender inequality.

How does gender equality affect economic outcomes?

Most studies in the area of gender equality in the Netherlands target topics such as economic independence, economic participation, labour market access and business performance. The prevalence of studies on these topics can be explained by the specific characteristics of the country, especially the prevalence of part-time work among women.

Indeed, the share of part-time employment in the Netherlands was 50.4 % in 2014, the highest in the EU⁽⁶⁰⁾. This masks significant differences between the percentage of women (76.9 %) and men (28 %) working part-time, though for both women and men these figures were the highest in the EU. Analysis by the CBS in 2012 found that between 6 % and 8 % of women working part-time could not find a full-time job, though nearly half indicated having a part-time job for family reasons, and others for study, not wanting to have a full-time job or for other reasons⁽⁶¹⁾. Increasing the participation of women, and especially some groups of migrant women, could have positive effects on the national economy.

The differences in labour market participation is a key characteristic of the Dutch labour market, and has been linked to wage gaps in a few studies (Albrecht, 2014, see below). According to Eurostat figures on the gender wage gap (GPG), the GPG in the Netherlands went down from 19.3 % in 2007 to 16.2 % in 2014, which is around the EU average⁽⁶²⁾. The Social Cultural Planning Office publishes

an annual Emancipation Monitor⁽⁶³⁾ with quantitative information about gender differences and emancipation in education, labour, health, income, combinations of labour and health, management positions, security and safety. Reports from this monitor do not directly assess economic impacts, but do focus strongly on indirect economic impacts, including correlations between employment rates and educational attainment of various subgroups (Dutch women, non-Dutch Western women and non-Dutch non-Western women), and on early school leaving, but also consider factors such as violence and health. The report does highlight the annual development of the national gender pay gap and employment rates and provides extensive overviews of statistics and ratios on key indicators in labour and income. For instance, in 2013, women worked on average 26.4 hours per week, with men working 37.6 hours. The average personal income received by women in 2013 was about EUR 22 800 against EUR 38 300 for men, while in 2012 women earned 80 % of the gross hourly wage for men. When this latter percentage is weighted by several variables (employment, educational attainment and management positions), the gap remains: 8 % in the public sector and 4 % in the private sector⁽⁶⁴⁾.

A yearly survey study on salaries (Dutch 2015 National Salary Study) found significant differences between the share of women and men in leadership functions and management functions. Only about 16 % of surveyed women (as opposed to 29 % of men) were in a leadership role. Among higher management roles in companies, 31 % were women and 69 % men. It also found that women earn on average 7.2 % less than men, and that this could not simply be linked to the specific employment characteristics. Last, it also highlighted that women were less satisfied than men with their pay (36.5 % of women report dissatisfaction with their pay compared to 30.5 % of men).

Another study on income gaps (Albrecht et al., 2004) showed that women who would get the greatest return from working full-time are the ones who in fact did work full-time. The study also found that about two thirds of this selection is due to observable factors such as education and experience, with the remainder due to unobservable factors. Decompositions in the study highlight that the majority of the gender wage gap is due to differences between labour market characteristics of women and men

⁽⁶⁰⁾ Eurostat: lfsa_eppga

⁽⁶¹⁾ 'Meer vrouwen aan het werk: vooral in deeltijd', available at: <https://www.cbs.nl/nl-nl/nieuws/2012/10/meer-vrouwen-aan-het-werk-vooral-in-deeltijd>

⁽⁶²⁾ Eurostat: tsdsc340

⁽⁶³⁾ The Emancipation Monitor provides an overview of the most recent data on emancipation indicators in the Netherlands. It delves into the position of women and men in numerous domains and presents the most recent statistics on education, paid employment, combining work and care tasks, income, senior positions and violence against women.

⁽⁶⁴⁾ Emancipation Monitor (2014), available at: http://www.scp.nl/english/Publications/Summaries_by_year/Summaries_2014/Emancipation_Monitor_2014

(especially the widespread availability of part-time work and the share of women working part-time).

Besides the income gap, the National Statistics Office carried out an analysis (CBS, 2012a) of how having children relates to educational attainment of women. The study found that there is a strong correlation between educational attainment and having children, with 27 % of highly educated women having no children as opposed to 15 % of women with low educational attainment.

The National Statistics Office also carried out a relevant recent study (CBS, 2014) regarding women at risk of poverty. The study found that after 10 years of a sustained drop in the share of women at risk of poverty, the share rose to 9.5 % in 2013 (as opposed to 8.7 % for men). The reversal in the trend is the result of rising unemployment after the economic downturn.

Finally, a study (Van den Brakel, 2011) carried out by the National Statistics Office found that economic independence of women was lower than for men in the Netherlands (67 % versus 83 %). The difference in the intensity of economic independence between genders is higher as education levels rise.

While the above studies explore the causes of the gender pay gap, employment and labour participation of women, they rarely touch on the wider impacts of these differences on the Dutch economy.

Key macroeconomic impacts of gender equality

A 2011 *ex post* study (Jongen et al., 2011) studied the effects of a rise in the country's childcare allowance on macroeconomic factors such as the labour participation of young partners in the Netherlands. This study concludes that the policy measures resulted in higher employment rates of medium- and highly educated women with young children (by 3.3 % in 2008-2009) and also led to women working more hours (6.6 % in the same period), with no effect for women with lower educational attainment.

Another study found that in the long run other fiscal stimuli (tax breaks) are more effective than subsidies in promoting formal childcare for children. This is an interesting finding in view of the debate in the Netherlands on continued cuts to childcare, and given that another study (Nationaal Werkonderzoek, 2012) surveyed a group of women and found that further cuts in childcare could see up to 34 % of women with children stop working or work less.

A study by the Netherlands Bureau for Economic Policy Analysis (Euwels and Folmer, 2009) forecasted the long-term employment rate of the Netherlands, projected to be 78 % in 2040, as a result of younger generations of women with high educational attainment and participation replacing older generations.

Finally, the literature identified a less sizeable but still significant socioeconomic cost resulting from violence against women. In 1997, the costs of (severe) physical violence of men against women were estimated at EUR 280 million per year (Korf, 1997). In a 2010 study it was found that the direct costs to employers of work absenteeism were between EUR 74 and 192 million per year (Visee and Homurg, 2010). The latter figure does concern both women and men victims, though it must be noted that another study found that 60 % of victims are women (Veen and Bogaerts, 2010).

There was no research on the sustainability or inclusiveness of these impacts.

Conclusions

This overview of research on the economic impacts of gender issues shows a small but growing body of relevant literature. The bulk of existing work concentrates on the labour market participation of women, including factors such as ethnicity, health and educational attainment, as well as gender wage gaps, the relationship between gender and firm performance, economic independence of women and gender characteristics of persons at risk of poverty. These studies find that labour market participation in the Netherlands is very high from an EU perspective, but is characterised by a very high share of part-time work among women, creating significant gender differences. A number of factors have a positive impact on the labour market participation of women, including childcare subsidies. Women are also less often than men in positions of leadership and the share of women in management functions is also substantially lower. Gender wage gaps persist and women report higher dissatisfaction with their pay, while the economic independence of women is lower than for men, and poverty rates are slightly higher. Meanwhile, sick leave and work absenteeism is higher among women than men.

There are numerous organisations and initiatives in the Netherlands that promote equality and equal rights. In 2012 the Equal Treatment Commission (CGB) merged into a new entity, the Board for Protection of Human Rights (College voor de Rechten van de Mens) and deals with non-discrimination and equality in a wide scope, but includes gender equality. There is no direct national gender institute, but there are initiatives such as Art. 1, the National Centre



for Diversity and Atria (Knowledge Institute for Emancipation and Women's History). In order to foster a sustainable change towards accessing the labour force potential of women in a better way, a series of public and private initiatives — with a legislative and non-legislative focus — have been implemented in the Netherlands ⁽⁶⁵⁾.

In 2013 the Dutch government launched a national target for 2016 (shying away from a quota) of a minimum of 30 % representation of women among several thousand companies and organisations subject to a Law on Governance and Monitoring ⁽⁶⁶⁾. However, as it appears that the sector is still far from achieving the target, the government might consider setting a quota after all.

Bibliography

Albrecht, J., Van Vuuren, A. and Vroman, S. (2004), *Decomposing the Gender Wage Gap in the Netherlands with Sample Selection Adjustments*, Forschungsinstitut zur Zukunft der Arbeit/Institute for the Study of Labor.

CBS (2015), *Armoedesignalement 2014*, Centraal Bureau voor de Statistiek.

CBS (2012a), *Vruchtbaarheid van mannen en vrouwen naar opleidingsniveau*, Centraal Bureau voor de Statistiek.

CBS (2012b), *Meer vrouwen aan het werk: vooral in deeltijd*, Centraal Bureau voor de Statistiek.

Eurostat (2016), 'lfsa_eppga' dataset.

Eurostat (2016), 'tsdsc340' dataset.

Euwals, R. and Folmer, K. (2009), *Arbeidsaanbod en gewerkte uren tot 2050: een beleidsneutraal scenario*, Centraal Planbureau.

Hendricks, M. and Oonk, V. (2013), 'Het Nationale Werkonderzoek 2012'.

Jongen, E., Bettendorf, L. and Muller, P. (2011), *Ex post analyse effect kinderopvangtoeslag op arbeidsparticipatie*, Centraal Planbureau.

Keizer, M. and Keuzenkamp, S. (2012), *Moeilijk werken*, Sociaal Cultureel Planbureau.

Korf, D. J., Mot, E., Meulenbeek H. and Brandt, T. van den (1997), *Economische kosten van thuisgeweld tegen vrouwen*, Thesis Publishers, Amsterdam.

Marinova, J., Plantenga, J. and Remery, C. (2010), *Gender Diversity and Firm Performance: Evidence from Dutch and Danish Boardrooms*, Tjalling C. Koopmans Research Institute (Utrecht University).

Ministerie van Onderwijs en Cultureel (2015), *Netto arbeidsparticipatie van paren met kinderen*.

Sociaal Cultureel Planbureau & Centraal Bureau voor de Statistiek (2015), *Emancipatiemonitor 2014*.

Van den Brakel, M. (2011), *Man-vrouwverschillen in de intensiteit van economische zelfstandigheid*, Centraal Bureau voor de Statistiek.

Van den Brakel-Hofmans, M. (2007), *De ongelijkheid van inkomens in Nederland*, Centraal Bureau voor de Statistiek.

Veen, H. C. J. van der and Bogaerts, S. (2010), *Huiselijk geweld in Nederland: overkoepelend synthese-rapport van het vangst-hervangst-, slachtoffer- en daderonderzoek 2007-2010*, Den Haag, WODC.

Van Muijen, E. and Melse, E. (2015), *Nationaal Salaris Onderzoek*, Intermediair/Nyenrode Business University.

Versantvoort, M. and Van Echtelt, P. (2012), *Belemmerd aan het werk Trendrapportage ziekteverzuim, arbeidsongeschiktheid en arbeidsdeelname personen met gezondheidsbeperkingen*, Sociaal Cultureel Planbureau.

Visee, H. C., and Homurg, G. H. J. (2010), *Verzuimkosten werkgevers ten gevolge van huiselijk geweld. Eindrapport*, Regio-plan, Amsterdam.

World Economic Forum (2015), *The Global Gender Gap Report*.

⁽⁶⁵⁾ European Commission — DG Justice (2012), 'The current situation of gender equality in the Netherlands — Country profile'.

⁽⁶⁶⁾ The *Wet Bestuur en Toezicht*.



Austria

This factsheet provides an overview of available national evidence of the economic outcomes of gender equality in the areas of labour market participation and violence against women.

In Austria, there is a lack of systematic quantitative analysis concerning potential economic benefits of gender equality. There is one quantitative study (Weber and Zulehner, 2009) that provided empirical evidence on the impact of gender equality on macroeconomic indicators, specifically on business performance. In addition, Haller and Dawid

(2006) estimated the cost of domestic violence using available national statistical data.

Beyond these studies, some research has been conducted regarding the status quo of gender equality in the Austrian labour market (see e.g. Leitner, 2001; Scambor, 2003), in particular with regard to potential factors that inhibit the labour market participation of women. This research discussed the current size and causes of gender gaps in the labour market but did not examine their economic impacts.

Summary table of quantitative studies on economic benefits of gender equality

Area of gender equality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
Labour market participation	Employment	The effect of the proportion of women employees on a firm's survival: <ul style="list-style-type: none"> ■ The results indicated that firms with a low proportion of women employees relative to the industry average have significantly shorter survival rates. These firms exit the market 18 months earlier than firms with a median share of women. ■ No apparent differences in firm survival could be found among other firms. 	Calculations based on sample of firms entering the Austrian market during 1978-2006 <i>Data sources:</i> Austrian Social Security Database (ASSD).
Violence against women	Cost to the economy	The costs of domestic violence in Austria reach EUR 78 million per year (Haller and Dawid, 2006). This equals costs of EUR 14 000 per capita when considering all direct and indirect costs.	Cost analysis <i>Data sources:</i> Cost data from national source, i.e. Statistics Austria, and the German statistical survey on the prevalence of domestic violence for the year 2004/2005 (see Haller and Dawid, 2006, for details).

Overview of research methods used

Currently, there are no rigorous macroeconomic modelling studies in Austria of the economic impacts of gender equality. Weber and Zulehner's (2009) paper is the only quantitative study which examines the impact of gender equality on macroeconomic indicators in the context of business performance. The research design is based on the hypothesis that 'competition sifts out more productive firms'. Using a Cox proportional hazard model, the paper tests the impact of competition on firms with a low proportion of women employees relative to the industry average by analysing their business survival rates and comparing them to firms with a higher proportion of women employees. In order to control for other relevant factors that may determine the survival of the firm, such as profitability, the paper included a number of control variables. The results show that even after having controlled

for all observable factors, the effect of the share of women as employees on a firm's survival remains substantial. The empirical model is based on data from the Austrian Social Security Database (ASSD), which holds matched employer–employee datasets⁽⁶⁷⁾. Specifically, the study used a sample of firms entering the Austrian market from 1978 to 2006.

In addition, there is one study (Haller and Dawid, 2006) aimed at measuring the economic costs of domestic violence against women, children and teenagers in Austria. Given the lack of representative data on the prevalence of domestic violence in Austria, the study could provide only estimates of the direct and indirect costs of domestic violence. The direct costs are related to, among others, police operations, medical

⁽⁶⁷⁾ Those types of datasets provide information on both employer and employee, linking firm and worker characteristics.



treatment, court proceedings and the prison system. Indirect costs include job loss and decreased productivity. The study used statistical data from national (Statistics Austria) and European sources (German statistical survey on the prevalence of domestic violence) for the year 2005 or 2004 (if no other data were available) to calculate its estimates.

How does gender equality affect economic outcomes?

The potential of economic benefits of gender equality is not substantially analysed in Austria. This section summarises the current situation in the Austrian labour market from a gender perspective and describes policy priorities that are perceived to have a potential to lead to positive economic outcomes.

The Austrian government has taken major steps in recent years towards improving the access of women to the labour market and to leadership positions, and in the reduction of the wage gap. Moving towards greater gender equality in the labour market is regarded as having a positive effect on economic growth (Austrian National Action Plan on Gender Equality in the Labour Market 2010), although the size of the effect has not been quantified in available research or evaluations.

According to Eurostat, the labour participation rate of women in Austria was above the EU-27 average of 59.6 % in 2014, standing at 66.9 %. However, women's labour market participation in Austria is still largely characterised by horizontal and vertical segregation (Austrian National Action Plan on Gender Equality in the Labour Market 2010). In 2008, 59 % of workers in unskilled jobs were women. This rate fell to one in four (24 %) for skilled jobs (Ibid.). While employment rates of women in Austria have significantly increased, a comparison of EU-27 countries revealed that Austria had one of the highest percentages of women in part-time employment in 2014 (Austria: 47.2 %; EU-28: 31.8 %), according to Eurostat. The increase in employment levels is thus primarily a result of increased levels of part-time employment among women. The share of part-time employment increased between 2003 and 2013, rising from 36.9 % to 47.2 % (Eurostat). However, the growth in part-time work often leaves women in precarious employment relationships characterised by low wages, atypical employment and a comparatively higher risk of poverty in old age (Austrian National Action Plan on Gender Equality in the Labour Market 2010).

In terms of women in leadership roles, in 2012, only 11.0 % of board positions in large companies in Austria were occupied by women (EU-27: 14 %), whereas the share of women in (executive) management positions in large companies and SMEs was about 30 % in 2010 ⁽⁶⁸⁾.

In 2014, women in Austria earned on average 22.9 % less compared to men (Eurostat data on the unadjusted gender pay gap). Causes of occupational gender pay gaps in Austria (Scambor, 2003) include unequal opportunities for career advancement, a high concentration of women in low-wage sectors, and large wage differences between women and men within and between sectors of the economy. The latter may be explained due to women's family-related career breaks, i.e. childcare, care work, etc. Childcare has remained a major reason for women's withdrawal from the labour market in Austria. Activity rates of women in the 20-50 age bracket with children under 15 are distinctly lower than those of women without children (Austrian National Action Plan 2010).

Key macroeconomic impacts of gender equality

Weber and Zulehner's study (2009) examined whether the share of women in companies is likely to affect the survival rate of companies, which is likely to link to the overall macroeconomic performance of the Austrian economy. The results indicated that firms with low share of women employees relative to the industry average, have significantly shorter survival rates, in particular when women are concentrated in the lower tail of the distribution. These firms exit the market 18 months earlier than firms with a median share of women. However, those firms with low share of women employees that manage to survive for at least 5 years eventually submit to market forces and increase their female workforce over time. No other apparent differences in firm survival were found.

In addition, Haller and Dawid's (2006) study estimated that Austria faces annual costs of EUR 78 million due to domestic violence. This equals costs of EUR 14 000 per capita when considering all direct and indirect costs.

Apart from these studies, there is no research that tries to produce quantitative evidence linked to impacts of gender equality on macroeconomic performance.

⁽⁶⁸⁾ European Commission — DG Justice (2012), The current situation of gender equality in Austria — Country Profile 2012.

Conclusions

There is a lack of quantitative studies measuring the potential economic benefits of gender equality in the Austrian context. However, two studies in particular aim to measure such benefits. Weber and Zulehner (2009) provide empirical evidence on the impact of gender equality on macro-economic indicators. Their results show that the share of women employees can impact firms' survival. Haller and Dawid's study on the cost of domestic violence showed that the estimated cost of domestic violence in Austria reached EUR 78 million in 2005, which accounted for approximately 0.03 % of national GDP in that year (Austrian GDP was EUR 253 009 million, according to Eurostat).

As indicated in the National Action Plan (2010), the Austrian government has undertaken efforts to facilitate the integration of women into the labour market and reduce the significant gender pay gap which characterises the Austrian labour market by, for example, introducing income-related childcare benefits in order to make it easier for women to reconcile job and childcare responsibilities.

Bibliography

Directorate-General for Parliamentary Research Services — European Parliament (2013), *Combating violence against women: European Added Value Assessment*.

Federal Minister for Women and Civil Service at the Federal Chancellery (2010), *National Action Plan: Gender Equality in the Labour Market*.

Haller, B. and Dawid, E. (2006), *The cost of domestic violence in Austria*.

Leitner, A., 'Gender Mainstreaming in the European Employment Strategy — The Case of Austria', in Behnung, U. and Pascual Amparo, S. (eds.), *Gender Mainstreaming in the European Strategy*, European Trade Union Institute, Brussels, pp. 157-182.

Leitner, A. and Wroblewski, A. (2011), *Measuring Gender Equality*.

Leitner, A. and Wroblewski, A. (2004), *Benchmarking Equal Opportunities: Austria in an EU comparison*.

Scambor, E. (2003), *The evolution of the Austrian labour market — The effect of current policies for gender equality in the labour market*.

European Commission — DG Justice (2012), *The current situation of gender equality in Austria — Country Profile 2012*.

Weber, A. and Zulehner, C. (2009), *Competition and Gender Prejudice: Are Discriminatory Employers Doomed to Fail?*



Poland



This factsheet provides an overview of available national evidence of the economic outcomes of gender equality in the areas of labour market participation, pay gap and decision-making.

There are few studies in Poland that provide a thorough analysis of the causes of gender inequality, and particularly that estimate the impact on the main macroeconomic indicators. The limited body of research explores some of the manifestations of gender inequality (i.e. wage gap), but the quantitative assessment of the impact on aggregate variables, including growth, is scarce.

Overall, the most common topic of relevant research are the determinants of the gender wage gap (Goraus and Tyrowicz, 2015; Van Der Velde, Tyrowicz and Goraus; Liberda, Tyrowicz and Smyk, 2013). However, even if these studies examine the determinants of the wage gap, its potential consequences, whether at micro or macro level, have so far been omitted.

Other studies have tried to explore the relationship between gender equality and specific economic outcomes,

typically without applying advanced statistical methods. For instance, the recent study of the Women Leadership Foundation (2015) investigated the relationship between the number of women in company boards and firms' performance. The study of Hozer-Kocmiel and Lis (2015) provided an approximate estimation of the aggregate value of household work delivered by women in Poland as a proportion of GDP, while a few other studies addressed, inter alia, the differences in returns to education between women and men in Poland (Pastore, 2005; Windenciak, 2015).

There are individual publications (Kalinowska-Nawrotek, 2004) that refer to available statistics (i.e. on lower women's employment) and make assertions about their determinants without relying on robust quantitative (and qualitative) methods. And again, to the best knowledge of the research team, there are currently no studies that attempt to estimate the impact of gender inequalities in education on economic growth, neither the impact of potential occupational discrimination nor lower employment rate.

Summary table of quantitative studies on economic benefits of gender equality

Area of gender equality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
Labour market participation	Value of women's household work expressed as share of national GDP	Value of women's household work in Poland is second highest among Baltic and Central European countries (after Germany) and oscillates at around 36 % of national GDP (Hozer-Kocmiel and Lis, 2015).	Calculations based on simplifying assumptions (without using a macroeconomic model). Estimated value of share in GDP as a function of an average wage, time spent on household work and number of women engaged in household work <i>Data sources:</i> Harmonised European Time Use Survey, data from 2004
Gender pay gap	Gender pay gap	No evidence of macroeconomic and microeconomic impact. Studies focused on the estimation on the wage gap and underlying factors (Gajek, 2013; Nawrotek, 2015; Mazur-Luczak, 2010; Van Der Velde, Tyrowicz and Goraus, 2013).	Micro-econometric analysis <i>Data sources:</i> National LFS produced by Central Statistical Office.
Business leadership	Business performance proxied by return on equity (ROE), price to book value (P/BV)	Companies with boards of directors that include at least one woman were found to have higher ROE (12.2 % versus 10.1 % in those without women) and P/VB (2.4 versus 1.8) (Women Leadership Foundation, 2015).	Simple correlation between the number of women in the boards of directors of the firms and the financial performance of the companies <i>Data source:</i> companies listed on the Warsaw Stock Exchange (GPW).

Overview of research methods used

There is no study in Poland that focuses on rigorous macroeconomic modelling of the economic impacts of gender equality. The rare studies that provide estimates at the macroeconomic level do not explore the impact of gender inequality on macroeconomic indicators and instead provide simple calculations of some broadly related aspects (i.e. value of women household's work as a share of GDP). Furthermore, there are some studies that argue the existence of the causality between gender equality indicators and (macro) economic indicators but they lack methodological rigour and miss specific quantification of the impact (Kongress Polskich Kobiet, 2009). Not uncommonly, studies rely on simple descriptive statistics analysis and, based on simple correlations, assert causation (Kalinowska-Nawrotek, 2004).

If more advanced micro-econometric analysis is involved, this is related to the wage gap (Gajek, 2013; Nawrotek, 2015; Mazur-Luczak, 2010; Van Der Velde, Tyrowicz and Goraus, 2013). For instance, Goraus and Tyrowicz (2014) used the Labour Force Survey, produced regularly by the Central Statistical Office in Poland, and began by matching data points of women and men with a similar set of characteristics. Based on that, the authors then decomposed the gender wage gap for the period 1995-2012 into a number of factors that potentially explained wage differentials using applied linear regressions. Importantly, the decomposition analysed specific factors and then sought to isolate the so-called 'unexplained' part of the wage differentials, or the part that could arise due to 'discrimination'. The authors indicated the caveat that, strictly speaking, the 'unexplained' part should be perceived as the component containing the effects of both: unobservable gender differences in characteristics and discrimination in the labour market. The study applies fairly standard robustness checks including the assessment of the sensitivity of coefficients to changes in regressors, and slightly less common checks, such as the Hodrick and Prescott filter to eliminate the impact of short-term fluctuations of output on the quarterly wage gap.

Furthermore, Van Der Velde, Tyrowicz and Goraus (2013) applied parametric and non-parametric regressions to Labour Force Survey data from Poland for 2012 to compare estimates of the adjusted wage gap from different methods and sets of conditioning variables. In a similar vein, Liberda, Tyrowicz and Smyk (2013) analysed to what extent the persistence of the wage gap in Poland is driven by women's absence from the labour market during their potentially most productive periods of the life cycle. In parallel, authors also hypothesised that one could expect that in the so-called 'talent occupations' ⁽⁶⁹⁾;

⁽⁶⁹⁾ The authors coded the talent occupations, applying the top three International Standard Classification of Occupations (ISCO): (i) legislators, senior officials and managers, (ii) professionals, (iii) technicians and associate professionals.

where access may differ between women and men, the gender wage gap should be smaller due to the high relevance of human capital quality. This research applied Deaton (1997) decomposition relying on the regression model with an estimation of the age effect, controlling for the time and cohort ⁽⁷⁰⁾ effect.

Some studies (Pastore, 2005) indicated that the important shortcoming of LFS data commonly used in the estimation of the wage gap in Poland is the lack of information on family background. This is usually found to be an important determinant of educational choices, together with expected incomes and unemployment.

More generally, and as already stated, research that has focused on the wage gap in the Polish context has not taken the analysis further and does not include either simple considerations nor an attempt to quantify the impact of the wage gap on other macroeconomic indicators, including the aggregate output.

The literature review also revealed that another fairly popular stream of research is the role of women in business, and in particular the implications of a higher share of women in company boards on performance. The recent report of the Women Leadership Foundation (2015) points to the simple correlation between the number of women on the boards of directors of firms and the financial performance of the companies (proxied by ROE), the valuation of the listed firms (proxied by P/BV), and more generally, key macroeconomic indicators. Yet again, these claims are assertions of causality based on the observed correlations and in fact the study does not examine either in which direction or with what magnitude those causal effects operate.

In recent research, Hozer-Kocmiel and Lis (2015) pursued the basic analysis where they estimated the aggregate value of the household work performed by women in several Baltic countries, including Poland. The method was based on available data from Harmonised European Time Use Survey (HETUS), where the aggregate value of GDP generated from household work provided by women was estimated as a function of an average wage, time spent on household work, and number of women engaged in household work.

Although very little research has been undertaken on the impact of access to childcare on women's employment in Poland, there are some studies that to some extent address the related issues. Matysiak (2009) modelled interdependencies between fertility and women's employment in post-socialist Poland. The study used the Employment,

⁽⁷⁰⁾ A cohort is when all individuals within a given study group have the same age.

Family and Education Survey completed in November 2006 with a representative sample of 3 000 women born in the period 1966-1981. The study was based on regression analysis, with a log of 'transition to first birth', 'transition to second and higher order birth', 'employment entry' and 'employment exit' being functions of endogenous and exogenous factors such as age, time since leaving education, and education itself or place of residence.

How does gender equality affect economic outcomes?

Overall, research that undertakes any attempt to link gender equality to the changes in macroeconomic indicators such as GDP, employment or investment, is missing. For instance, although some studies address related issues such as the differences in return to education between women and men in Poland (Pastore, 2005; Windenciak, 2015), they do not explore the impact of differences in educational attainment between women and men and economic growth.

Likewise, there are studies that focus on the determinants of the gender wage gap, but they do not explore this phenomenon further or try to gauge whether any impact on the micro- or macro-level exists. Goraus and Tyrowicz (2014) found that the raw wage gap in Poland over the period 1995-2012 was 9 % while the adjusted wage gap amounts to as much as 20 % on average over the analysed periods, and shows some cyclical properties. Van Der Velde, Tyrowicz and Goraus (2013) found that the raw gap amounts to nearly 10 % of the female wage, and after the correction for endowments, the adjusted wage gap estimates range between 15 % and as much as 25 %, depending on the method and the choice of conditional variables. According to Eurostat data, the unadjusted gender pay gap in Poland as of 2014 was 8.1 % ⁽⁷¹⁾.

In terms of the wage gap in the 'talent occupations', Liberda, Tyrowicz and Smyk (2013) found that the wage gap persists in practice irrespective of how skills-demanding a given occupation is. More specifically, the total sample of the raw wage gap between genders was found to be 10.2 %, whereas the one for 'talent' occupations was 9.4 %. Both estimated gaps were found to be significant.

There is very little available research in the Polish context that provides evidence on the impact of variations in access to childcare on wages, and more broadly aggregate output. Cukrowska and Lovasz (2014) attempted to estimate how

much children and responsibilities related to their care contribute towards the divergence of women's and men's wages, and consequently, to the formation of the gender wage gap. Interestingly, the authors concluded that the most of the gender wage inequality is due to the positive wage gap between men who do and do not have children and not due to the wage penalty incurred by mothers. Matysiak (2009) looked at childbearing and employment patterns in post-socialist Poland. The results revealed a strong incompatibility between childbearing and employment, but also that employment does not function as a barrier to childbearing but rather that it is an important precursor when women plan how to reconcile their intentions to work and to have children. The first child was found to lower the intensity of employment entry by a factor of four and increases the intensity of employment exit by a factor of five. Births of higher order reduce the chances of women's involvement in the labour market to an even greater extent. The intensity of taking and of keeping a job depends on the age of the youngest child. It is lowest during pregnancy and the early phases of the child's life. Although it increases thereafter, it does not reach the pre-birth level. The impact of employment on childbearing is less pronounced, but is still negative. Working women are 8 % less likely to conceive their first child and 12 % less likely to have the second or higher order. The author hypothesised that the weak public support for working parents may be a key determinant reducing the fertility rate, but the estimation did not include any corresponding variable that would allow for it to be tested. They concluded that better prospects for women's employment could result in increased fertility.

Finally, a recent report from the Women Leadership Foundation (2015) highlights that companies with boards of directors that include at least one woman were found to have higher ROE (12.2 % versus 10.1 % in those without women) and P/VB (2.4 versus 1.8). However, this research does not control for other factors (such as business characteristics) that could have influenced this difference.

Key macroeconomic impacts of gender equality

There appears to be currently no research in Poland that explores the macroeconomic impact of gender equality.

In a rare example of research that has a macro perspective, Hozer-Kocmiel and Lis (2015) attempted to estimate the value of the household work performed by women as a share of domestic output. The authors pursued a basic analysis where they estimated the aggregate value of the household work performed by women in several Baltic countries, including Poland. The methods was based on

⁽⁷¹⁾ Eurostat (2016), Gender pay gap statistics, available at: http://ec.europa.eu/eurostat/statistics-explained/index.php/Gender_pay_gap_statistics



available data from the Harmonised European Time Use Survey (HETUS), where aggregate value of GDP generated from household work provided by women was estimated as a function of an average wage, time spent on household work and number of women engaged in household work. The study concluded that the value of women's household work in Poland is one of the highest among Baltic countries and oscillates at around 36 % of national GDP.

Conclusions

There is no research in Poland that attempts to estimate the effect of gender inequality on economic growth. Research on this topic is qualitative and is rarely based on rigorous methodological approaches. For instance, studies often suffer from vague assertions about causality based on simple observed correlations or hypotheses that lack appropriate grounding.

Having said that, there is still a body of research that has a quantitative nature and concentrates on certain aspects of broadly defined gender equality. Determinants of the wage gap are indeed the most common ones. Other identified studies focus, inter alia, on the relationship between numbers of women on boards of directors and firms' profitability, estimation of the value of women's household work or the relationship between employment conditions and women's fertility rate, with access to childcare mentioned in the background but not being properly taken into account in the analysis.

Bibliography

Fundacja Liderów Biznesu (2015), *Kobiety we władzach spółek giełdowych w Polsce*, available at: <http://www.rownoscwbiznesie.mpips.gov.pl/component/jdownloads/send/5-kobiety-w-biznesie/144-kobiety-w-spolkach-gieldowych-2015-raport-fundacji-liderek-biznesu.html>

Goraus, K., Tyrowicz, J. (2014), 'Gender Wage Gap in Poland — Can it be explained by differences in observable characteristics?', *Ekonomia*, available at: <http://ekonomia.wne.uw.edu.pl/ekonomia/getFile/733>

Goraus, K. (2013), *The goodwill effect? Female access to the labour market over transition: A multicollinearity analysis*, available at: http://www.wne.uw.edu.pl/files/5413/9636/7206/WNE_WP104_2013.pdf

Goraus, Tyrowicz and Van Der Velde (2013), *What is the true gender wage gap? A comparative analysis using data from*

Poland, available at: https://www.wne.uw.edu.pl/inf/wyd/WP/WNE_WP113.pdf

Grajek, M. (2003), 'Gender Pay Gap in Poland', *Economic Change and Restructuring*, Vol. 36, No 1, pp. 23-44.

Hozer-Kocmiel (2015), *Klasyfikacja krajów nadbałtyckich ze względu na czas prac wykonywanych w gospodarstwie domowym*.

Kalinowska-Nawrotek, B. (2004), *Nierówności płci na rynku pracy*, available at: http://www.ur.edu.pl/pliki/Zeszyt4/29_kalinowska-nawrotek.pdf

Kongress Polskich Kobiet (2009), *Kobiety dla Polski, Polska dla kobiet. 20 lat transformacji*, available at: https://www.kongreskobiet.pl/Content/uploaded/files/sytuacja_kobiet_w_polsce/raport-kobiety-dla-polski-polska-dla-kobiet-20-lat-transformacji-1989-2009.pdf

Liberda, B., Tyrowicz, J. and Smyk, M. (2013), *Age-productivity patterns in talent occupations for men and women: A decomposition*, Working Papers 2013-2027.

Matusiak, A. (2009), *Employment first, then childbearing: women's strategy in post-socialist Poland*, Warsaw School of Economics.

Pastore, F. (2005), *To study or to work? Education and labour market participation of young people in Poland*, available at: <http://ftp.iza.org/dp1793.pdf>

Windenciak, L. (2015), *Was it all worth it? On the value of tertiary education for generations '77 in Poland*, available at: <http://ekonomia.wne.uw.edu.pl/ekonomia/getFile/766>



Portugal

This factsheet provides an overview of available national evidence of the economic outcomes of gender equality in the areas of paygap and violence against women.

Research on gender equality in Portugal has made only a few attempts at performing rigorous analysis of the potential causes and economic impacts of gender inequalities. Quantitative studies are mostly limited to decompositions of wage differentials used to explain the role of gender discrimination in the labour market (Santos and Gonzáles, 2003; Mendes, 2005, 2006). In addition, Saraiva (2012) uses sophisticated statistical analysis to assess gender differences in consumption and risk aversion.

Other impacts or costs of gender equality are analysed by using qualitative or simpler quantitative methods. Two studies tackle the economic costs of domestic violence (Barros, Lisboa, Barrenho and Cerejo, 2008; Cerejo, Barros and Manuel, 2008), with the former assessing costs to the national health system and the latter reviewing economic and socioeconomic impacts. Finally, two studies broadly describe the relationship between the Portuguese welfare system and gender inequality (Alexandre and Martins, 2009), and the potential gains from promoting gender equality in issues of environmental sustainability (Queirós, 2010).

Summary table of quantitative studies on economic benefits of gender equality

Area of gender equality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
Gender pay gap	Gender pay gap	No evidence of macroeconomic impact; three studies rigorously model microeconomic causes of gender pay gap (Santos and Gonzáles, 2003; Mendes, 2005, 2006). Occupational segregation and its effect in wage disparities was explored in one study (Mendes, 2005).	Micro-econometric analysis <i>Data sources:</i> personnel records collected by Ministry of Social Security and Employment for gender wage comparisons.
Violence against women	Cost to the health service	On average, healthcare costs EUR 140 extra per year for victims of domestic violence, which is about 22 % more than the average healthcare costs per year for non-victims. The majority of these costs are paid by the national health system, an average extra EUR 127 (per year) per victim (Barros, Lisboa, Barrenho and Cerejo, 2008).	Cost analysis <i>Data sources:</i> survey, data from primary care centre users and SNS pricing data (Barros, Lisboa, Barrenho, and Cerejo, 2008).

Overview of research methods used

None of the surveyed reports focused on rigorous macroeconomic modelling of the economic impacts of gender equality. Indeed, the only reports linking gender equality to macroeconomic outcomes rely on simple analysis of national statistics and qualitative approaches.

Four studies stand out for using rigorous microeconomic analysis to assess causes and impacts of gender inequality:

- Three of these used the Oaxaca decompositions of wage differentials to explain the Portuguese gender wage gap (Santos and Gonzáles, 2003; Mendes, 2005, 2006). Mendes (2005) introduced a further step, adapting this model to assess the role of occupational segregation in wage disparities. All of these studies control for external variables that could influence wages (i.e. firm size, geographic location) and human capital characteristics (i.e. education, experience and tenure).

- Apart from these, Saraiva's (2012) study on the gender differences in consumption and attitudes towards risky financial products used sophisticated statistical analysis and controlled for potential biases in sample and analysis. While using sophisticated analysis methods, the results of the study are compromised by the relatively small sample and potential of self-selection biases (open survey).

Other research methods used in the reviewed literature include an impact analysis of costs of domestic violence attacks for the national health system (Barros, Lisboa, Barrenho and Cerejo, 2008). There were also two studies that relied on a mix of descriptive statistical analysis with qualitative research to address links between gender equality and the welfare provision model (Alexandre and Martins, 2009) and environmental sustainability (Queirós, 2010).

Overall, all of the studies analyse current links between certain gender inequalities and specific, partial economic outcomes rather than their overall impact on the economy.



The data sources used include personnel records collected by the Ministry of Social Security and Employment for the gender wage comparisons, tailored surveys, Eurostat, OECD data and a national census on public services.

How does gender equality affect economic outcomes?

The gender wage gap in the Portuguese labour market received the most attention in the reviewed studies (Santos and Gonz ales, 2003; Mendes, 2005, 2006; Cantante, 2014). Some researchers pointed out that this was because of the unique nature of the Portuguese case, which is characterised by a high level of women's integration in the labour market, a high level of women's full-time employment and a high gender wage gap (Santos and Gonz ales, 2003).

According to Eurostat⁽⁷²⁾, in 2014, 64.2 % of women between 20 and 64 years old participated in the Portuguese labour market (in comparison, men had a participation rate of 71.3 %). In addition, the gender pay gap⁽⁷³⁾ was 14.9 %.

This is in accordance with earlier studies that showed women received about 75 % of the average total monthly salary of men in 2000. There was also a high level of occupational segregation, as 61 % of men workers were employed as production workers, machine operators, middle managers, and technicians, while 47 % of women worked in administrative, service and sales occupations (Mendes, 2006).

All reports studying wage gaps found that gender discrimination was the main reason behind the disparity.

- Replicating similar results of earlier studies (Santos and Gonz ales, 2003), Mendes (2006) found that the biggest gaps between wages were within the same occupations. Observable personal differences explained only 24 % of these gaps, leaving 76 % as potentially resulting from gender discrimination.
- In contrast, Mendes (2006) found that occupational segregation played only a small role in explaining the gender wage gap, as it accounted for only 13 % of the disparity in earnings and was mostly explained by observable personal differences (i.e. education, experience).
- Gender discrimination was also presented as the main factor behind wage gaps in another study analysing

the wage gap between top management jobs, which found that observable personal differences accounted for only 27 % of these gaps. The study claimed that the remaining differences were potentially caused by gender discrimination (Mendes, 2005).

The gender discrimination in salaries seems to grow with the wage level. In 2009, there were 39 % more men than women among workers with earnings in the top decile of wages, with severe under-representation of women in directorial positions. In addition, for the top salary percentile the wage gap between women and men rises to 41 % (Cantante, 2014).

While these studies explore the causes of the gender pay gap, they do not analyse its impact on the Portuguese economy, justifying the need for pay equality with social justice. There is no other national research that indicates what impacts the gender pay gap has on economic performance.

Apart from studies on the gender pay gap, national research indicates that improving gender equality is linked to the economy in the following ways:

- Generally, a small survey of perceptions of risk in financial investment showed that women are more conservative than men and prefer activities with lower risk (83.3 % women versus 56.7 % men), aiming at preserving the invested capital (Saraiva, 2012).
- Reducing prevalence of violence against women would lead to public savings mainly in health (Barros, Lisboa, Barrenho and Cerejo, 2008). It would also reduce income and job losses, child poverty and court spending, even though these effects were not quantified (Cerejo, Barros and Manuel, 2008).
- Women play a key role in increasing sustainable consumption and production. In particular, the gendered division of work in rural areas means they are central in advancing sustainability in resource management and sustainable farming practices (Queir os, 2010).

Key macroeconomic impacts of gender equality

None of the reviewed studies has as a primary focus the macroeconomic impacts of gender equality. However, qualitative research allows researchers to extrapolate the following possible outcomes:

⁽⁷²⁾ http://appsso.eurostat.ec.europa.eu/nui/show.do?wai=true&dataset=lfsa_ergan

⁽⁷³⁾ http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=earn_gr_gpgr2&lang=en

- Reducing domestic violence would lower spending on the national health system (SNS). On average, healthcare costs EUR 140 extra per year for victims of domestic violence, which is about 22 % more than the average healthcare costs per year for non-victims. The majority of these costs are paid by the national health system: an average extra EUR 127 (per year) per victim (Barros, Lisboa, Barrenho and Cerejo, 2008).
- Addressing gender equality in welfare provision (i.e. increasing childcare and elderly care and access to benefits) and promoting a more equal distribution of domestic responsibilities could increase women's labour participation, reduce the risk of child poverty and reduce socioeconomic inequalities (Alexandre and Martins, 2009).

Conclusions

There are no macroeconomic studies analysing the economic impacts of enhancing gender equality in Portugal. Overall, researchers note that Portuguese women tend to participate almost as often as men in the labour market, but they tend to receive lower salaries than men.

This is clearly reflected in available economic research on gender equality, which focuses predominantly on the determinants of gender wage gaps. Researchers have deployed sophisticated econometric methods to analyse this issue and have found, with a reasonable degree of robustness, that gender discrimination is the main factor behind it.

Further research used a mix of quantitative and qualitative methods to assess the causes and costs of the current gender inequalities. Researchers outlined possible macroeconomic impacts of reducing inequality, including increased women's labour market participation, reduction of national health expenditure, reduction of risk of child poverty, and increased socioeconomic equality.

The main recommendations for the future are to directly promote equal pay between women and men as a primary goal, and to address occupational segregation as a secondary objective. In terms of welfare provision, the extension of coverage of public childcare and elderly care could increase women's participation in the labour market and promote a more equal distribution of unpaid work. The majority of the research reviewed also recommends further research to quantify the causes and impacts of gender inequality.

Bibliography

Alexandre, H. and Martins, M. (2009), 'Model features Portuguese welfare of providence as a factor of economic and social fragility of/as citizens/as and families, from a gender perspective', *7th National Congress of Public Administration*, National Institute of Administration, Lisbon.

Barros, P. P., Lisboa, M., Barrenho, E. and Cerejo, D. (2008), *Healthcare costs of domestic violence against women — Evidence from Portugal*, Lisbon.

Cantante, F. (2014), *Gender inequalities in the top incomes in Portugal*, Observatório das Desigualdades e-Working Paper No 1/2014.

Cerejo, S. D., Barros, P. P. and Manuel, M. (2008), 'Socio-Economic Costs of Violence Perpetred Against Women in Portugal: dynamics and sociocultural processes', *VI Congress of Portuguese Sociology*, University Nova of Lisbon.

Mendes, R. V. (2005), *Decomposition of Gender Wage Differentials among Portuguese Top*, Arcozelo: Management School, Polytechnic Institute of Cavado e Ave.

Mendes, R. V. (2006), *The role of occupational segregation in explaining the male-female wage gap in the Portuguese economy*, University of Minho, Braga.

Queirós, M. (2010), 'Towards the Construction of a Research Agenda "Gender and Environment" in Portugal', *Revista Latino-Americana de Geografia e Gênero (Latin American Journal of Geography and Gender)*, pp. 106-115.

Santos, C. and Gonzáles, P. (2003), *Gender Wage Differentials in the Portuguese Labor Market*, Oporto: Research Centre on Industrial, Labour and Managerial Economics, University of Oporto.

Saraiva, T. (2012), 'Investors' risk profile: Differences between men and women', *Cadernos do Mercado de Valor Mobiliário*, pp. 54-71.



Romania



This factsheet provides an overview of available national evidence of the economic outcomes of gender equality in the areas of labour market participation, sharing of unpaid care work and paygap.

There are no national-level studies in Romania that measure or estimate the economic impact of gender equality. Some of the studies identified for this report use statistical modelling (regression equations, either univariate or multi-variable) in order to explain gender inequality in Romania, usually in relation to the labour market. However, none of the studies provides a macroeconomic estimation of the economic impact of gender equality.

Three of the studies mentioned in this report use statistical methods to assess the impact of increasing gender equality (Fong and Lokshin; 2000; Hărăguș, 2010; Andrén and Andrén, 2015). These studies focus on childcare, division of household work and the gender wage gap.

Two further studies use simple quantitative data (descriptive statistics of existing data) and/or qualitative methods to argue that gender inequality has an impact on women's opportunities and, as a result, on the economy, but without providing any data or calculations in this regard (Dragotă and Miricescu, 2009; Băluță et al., 2011).

Summary table of quantitative studies on economic benefits of gender equality

Area of gender equality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
Labour market participation	Employment	The level of women's participation in the labour market could be improved by: Reducing childcare costs (Fong and Lokshin, 2000); Increasing the availability of childcare in terms of location and opening hours (Băluță et al., 2011).	Descriptive statistics, qualitative assessment <i>Data sources:</i> LFS (Eurostat) and Labour Force and Household Survey (provided by the Romanian Institute for Statistics).
Gender pay gap	Wages	Andrén and Andrén (2015) link the gender pay gap and occupational segregation. However, they do not analyse the gender pay gap's macroeconomic impacts.	Multivariate regressions <i>Data sources:</i> Romanian Integrated Household Survey.
Time use	Employment	A more equal division of household work could positively impact on women's labour market participation (Hărăguș, 2010; however, no exact figures are provided).	Univariate regression <i>Data sources:</i> Romanian Generations and Gender Survey (GGG, 2005).

Overview of research methods used

Fong and Lokshin (2000) use a statistical model to determine the link between household demand for childcare and mothers' labour force participation and working hours in Romania. The model establishes a discrete choice equation between childcare and labour supply, an equation for a mother's hours at work, and an equation for children's hours in paid care. The authors use data from the Romania Child Care and Employment Survey (RCCES, World Bank, 1999), a national representative study that included 1 505 households with children younger than 12 years of age, and 403 households with children aged in 0 to 6 in kindergartens and/or crèches.

A very recent study (Andrén and Andrén, 2015) models the evolution of the gender wage gap before and after 1989. The authors propose a model with an endogenous switch

among three broad types of occupational groups defined by their gender composition: men-dominated, gender-integrated (an occupational group that has an equal proportion of women and men workers), and women-dominated occupations. The authors use statistical data provided by the Romanian Integrated Household Survey, a national representative multi-annual quantitative survey.

Another study (Hărăguș, 2010) uses a simple regression model to test whether the theoretical models of 'gender ideology' (74), 'relative resources', and 'time availability approach' explain the gendered division of household work, specifically the amount of hours of housework done by a person and the division of housework inside the family.

(74) Hărăguș (2010) uses the term gender ideology as a 'gender role socialisation theory or gender values approach' which 'suggests that individuals have different ideology orientation and they are translating such values and norms in the daily activities' (p. 1).



The author uses data provided by the Romanian Generations and Gender Survey (GGG, 2005).

The other two studies (Dragotă and Miricescu, 2009; Băluță et al., 2011) use descriptive statistics to illustrate that the absence of adequate childcare, occupational segregation and low wages negatively impact women's participation in the labour market. They mainly use data provided by LFS (Eurostat) or from the Labour Force and Household Survey (provided by the Romanian Institute for Statistics).

How does gender equality affect economic outcomes?

The studies identified as relevant for this report establish that increasing women's labour market participation and providing adequate childcare can have a positive impact on gender equality and, at the same time, on economic output in Romania. Almost all of the studies mentioned in this report propose that increasing women's participation in the labour market is fundamental for achieving gender equality. The studies indicate that improving women's labour market participation depends both on childcare costs (Fong and Lokshin, 2000) and its availability in terms of location and opening hours (Băluță et al., 2011). In addition, these studies indicate, though without providing any data or statistical models, that reducing the gender pay gap and occupational segregation could improve the level of women's participation in the labour market (which is one of the lowest in the EU)⁽⁷⁵⁾.

Fong and Lokshin's (2000) study states that economic incentives have a powerful effect on the work behaviour of women with children in Romania. Specifically, the authors' statistical model shows that women with children tend to seek employment and look for external childcare if the price of childcare is affordable. The more affordable the childcare, the more women are inclined to be active on the labour market. Another key finding comes from a recent study (Andrén and Andrén, 2015) which determines that the number of children younger than 18 has a significant negative impact on women's level of labour market participation; for men the opposite applies. In addition, this study provides evidence that the gender pay gap in Romania can be largely explained by occupational segregation, but still a small part of it remains unexplained.

Hărăguș (2010) also states that an unequal division of household work in Romania, where women do most of the domestic chores, negatively impacts women's labour market participation; however, no exact figures are provided.

⁽⁷⁵⁾ In 2015, 57.2 % of women in Romania aged 20-64 were employed, as compared to the 64.3 % EU average (Eurostat, [lfsa_ergan]).

Instead, the author investigates what determines the gendered division of housework inside the family. Testing within a two-subsets model (for women and men) for variables such as number of children, level of education, paid working hours, the author postulates that:

- living in an urban area constitutes a factor that creates a more egalitarian distribution of household work;
- having a higher family income also leads to a more egalitarian distribution of household work; and
- the income distribution within the household has a powerful effect on domestic work for both women and men; if their income is higher than their partners', they have a lower involvement in housework.

Another study (Dragotă and Miricescu, 2009) states that the fact that women retire earlier than men in Romania has a negative impact on women's earnings; however, the authors do not provide an estimation of this negative impact.

Finally, Băluță et al. (2011) point to the lack of any economic calculation of the impact of austerity measures implemented after 2009 in Romania on gender equality. The authors of the study use descriptive statistics of existing data to make a connection between cuts in both social security spending and childcare policies and the level of women's unemployment level which, uncharacteristically compared to other EU countries, rose during the economic crisis.

Key macroeconomic impacts of gender equality

There is no study in Romania that measures the impact of gender equality on macroeconomic indicators. Similarly, there is no study that provides an assessment of the cost of implementing gender equality policies or their impacts.

However, there are some studies that show effects that can be linked to macroeconomic performance or discuss macroeconomic impacts qualitatively:

- Fong and Lokshin's (2000) study determines that the price of childcare influences women's decision with regard to the labour market. Using a statistical model, the authors determine that the potential decrease in the price of childcare can lead to an increase in women's employment rate, which would improve a country's macroeconomic performance, because adequate childcare facilities represent an 'investment in a country's future workforce and economic capacity, but it is also an important mechanism for making use of the

human capital vested in women of working age' (Fong and Lokshin, 2000, p. 2).

- Băluță et al. (2011) postulate that spending cuts in parental benefits and childcare support, gender equality institutions and social protection have worsened women's labour participation and led to a greater extent of social exclusion. In addition, Dragotă and Mircescu (2009) state that increasing women's participation could lead to an improvement in public finances and, through reconciliation policies, stop the negative demographic trend. However, no specific data are provided.

inequality?' *IZA Journal of European Labor Studies*, Vol. 4, No 10.

Hărăguș, P.-T. (2010), *The division of household labour in Romanian families: Between gender ideologies, relative resources and time availability*, paper presented at the European Population Conference 2010, Vienna, Austria.

Băluță, O., Bragă, A. and Iancu, A. (2011), *Impactul crizei economice asupra femeilor* (The Impact of the Economic Crisis on Women), Maiko Publishing, Bucharest.

Conclusions

The studies identified as relevant for this report establish that increasing women's labour market participation and providing adequate childcare can have a positive impact on gender equality and, at the same time, on the economic output in Romania. While none of the studies provided an estimate of the economic impact of such policies, they assumed (and usually justified this assumption by referencing other studies that include EU countries) a positive link between economic growth and gender equality.

A key finding featured in these studies of Romania is that women's labour market participation is likely to be affected by a variety of factors including childcare availability and affordability, working hours, the gender pay gap and the level of occupational segregation (both horizontal and vertical). Some of the studies suggest that these aspects are interlinked and there is a need for multi-dimensional explanations and solutions for addressing gender inequality in Romania. Although further robust macroeconomic studies are needed, the research cited here indicates that women could contribute to economic growth if affordability and accessibility of childcare facilities were increased.

Bibliography

Fong, M. and Lokshin, M. (2000), *Child care and women's labor force participation in Romania*, Working Paper 2400, The World Bank, Washington DC.

Dragotă, M. and Mircescu, E. (2009), 'Deficiencies of the Public Pension System in Romania: Some Reform Measures Derived from the EU Experience', *Theoretical and Applied Economics*, No 11, pp. 3-14.

Andrén, D. and Andrén, T. (2015), 'Gender and occupational wage gaps in Romania: From planned equality to market



Slovenia

This factsheet provides an overview of available national evidence of the economic outcomes of gender equality in the areas of labour market participation and violence against women.

In Slovenia, several studies analyse the potential causes and economic impacts of gender (in)equality (e.g. Humer and Roksandić, 2013; Robnik, 2012a). The studies centre around the participation of women in the labour market and their representation in leadership positions, but touch upon other issues such as violence against women and domestic work.

In a quantitative study, Humer and Roksandić (2013) analyse the impact of recently introduced austerity measures

on women in the Slovenian labour market, though without rigorously assessing the economic consequences of these measures. Robnik (2012) analyses the representation of women in leadership positions as well as the reconciliation of professional, family and private life in Slovenia.

One study (Hrženjak, 2008) addresses the benefits of regulating informal domestic work of women for the labour market in Slovenia, via experimental analysis. It is noteworthy that the majority of the studies are not scientific papers in the narrow sense, but mainly studies published by academics as part of larger projects initiated by the Slovenian Ministry of Labour, Family, Social Affairs and Equal Opportunities and often funded through EU funds.

Summary table of quantitative studies on economic benefits of gender equality

Area of gender equality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
Labour market participation	Employment	The introduced austerity measures have adversely affected women, particularly certain groups of women, such as older women, women in single parent families, women from the middle class and ethnic minority women (Humer and Panić, 2014; Humer and Roksandić, 2013). Cuts in the public sector, particularly in the field of health and social care, take away responsibility for care from the government and shift it to households, especially women, who do the majority of informal household and care work, leading to a return to traditional gender roles in Slovenia (Humer and Roksandić, 2013; Robnik, 2012b).	Descriptive statistics, qualitative analysis <i>Data sources:</i> data on work and social policies from the Slovenian Office of Statistics; data from surveys; interviews.
Violence against women	Cost to the economy	Violence against women is assumed to have an impact on the health system in Slovenia, contributing to the costs for e.g. psychological services. However, no figures were provided in available research (Leskošek et al., 2010) ⁽⁷⁶⁾ .	Survey analysis <i>Data sources:</i> various administrative data sources and survey results (see Leskošek et al., 2010, for more details).

Overview of research methods used

The analysed studies in Slovenia do not use rigorous macroeconomic modelling on the economic impacts of gender equality. One study does provide estimates of macroeconomic impacts on gender equality due to austerity measures (Humer and Roksandić, 2013), but mostly the research analyses the situation of women in terms of equality or access to the labour market (e.g. Robnik, 2012).

In the study commissioned by the Office for Equal Opportunities in Slovenia, Robnik (2012) analysed the representation of women in decision-making positions in the business sector. Robnik (2012a) conducted a survey of the 253 biggest Slovenian companies in the private sector and assessed through descriptive quantitative analysis the under-representation of women in decision-making positions in these companies. Robnik (2012b) further analysed the work-family balance in Slovenia via survey data (e.g. data on decision-making in households regarding major or minor household expenses, costs associated with children, everyday tasks and major activities in households). Based on this data, the researcher created an index of gender equality which measures how the socioeconomic, health and demographic factors, including age, (un)employment and household structure, affect work-family balance.

⁽⁷⁶⁾ Based on the cost of intimate partner violence against women and of a wider category of gender-based violence against women, the estimated monetary losses in Slovenia were found to be EUR 444 million and EUR 919 million respectively in an EU-level study (EIGE, 2014).



Humer and Roksandić (2013) focus on the impact of the economic crisis on the participation of women in the labour market. Based on national statistical data, they provide evidence of the impact of the crisis through a descriptive quantitative analysis of national data.

In an earlier qualitative study on irregular and paid domestic work in Slovenia, Hrženjak (2008) assesses the position of women in the grey economy through an experimental analysis of 30 households with pre-school children, which were provided with a domestic worker for 6 months. The domestic workers were 100 long-term unemployed women in Ljubljana. The women recorded their tasks in a diary that was analysed and used to identify the types of work required. The experiment further included interviews with the participating households and focus group discussions with the employed women. The experiment was evaluated via questionnaires and further focus group discussions with all participants.

In their study on the evaluation of the first 'national survey on violence in [the] private sphere and intimate partnerships', Leskošek, Urek and Zaviršek (2010) conducted a survey analysis of women between 18 and 80 years of age to assess the social impacts of violence against women in Slovenian society. There is no information about the exact analysis, except the note that the analysis was conducted via in statistical software SPSS.

In sum, the data sources of the studies include data on work and social policies from the Slovenian Office of Statistics, data from surveys, interviews and other national and EU sources of data (see Table above for more details).

How does gender equality affect economic outcomes?

The central themes of the analysed studies include the representation of women in the labour market in general and their prevalence in decision-making positions in particular (Robnik, 2012a), the impact of the economic crisis on women (Humer and Roksandić, 2013) and the connection between social policies and gender equality (e.g. Robnik, 2012b; Hrženjak, 2008).

Although the participation of women in the labour market in Slovenia has historically been relatively high, it is lower compared to the participation rate of men (e.g. in 2008 the employment rate for women aged 20 to 64 was 68.5 % whereas it was 77.4 % for men according to Eurostat). The recent economic crisis has contributed to a worsening of the situation in the labour market in general. It contributed to lower employment rates for women and men, whereby in 2015 the employment rate for women fell to 64.7 %, compared to 73.3 %

for men. In particular, the introduced austerity measures have adversely affected women (Humer and Panić, 2014).

In their study on the effects of the economic crisis and anti-crisis measures on women and men in Slovenia, notably on the participation of women in the labour market, Hummer and Roksandić (2013) indicate that the austerity measures implemented by the Slovenian government in 2012 disproportionately affected women. Pay cuts and lay-offs have been introduced in the public sector, having thus a larger impact on women as they represent a significant number of these employees. In particular, the fields where women are historically more present such as education, health and social work (80 % of the people employed are women) have been affected by the cuts (Humer and Panić, 2014). In the years 2012-2013, the unemployment rate for women was slightly higher than for men. The authors note that the effects of the crisis and anti-crisis measures affect particularly certain groups of women, such as older women, women in single parent families, women from the middle class and ethnic minority women (Humer and Roksandić, 2013).

The participation of women in the labour market via irregular domestic work was the subject of a study in 2008 financed through the EU programme EUQAL in Slovenia. In the study, Hrženjak (2008) analysed the situation of two groups of women: those doubly burdened by productive and reproductive work, who transfer part of their domestic work to irregular domestic workers; and long-term unemployed women who are facing social exclusion and poverty, mainly undertaking work in the grey economy. The aim of the study was to assess whether the introduction of a public system of household assistance would reduce the conflict between family and work in households with pre-school children and whether it would contribute to creating new jobs for long-term unemployed women, providing arguments for the introduction of a regulation of domestic work as outlined in detail in the sections below.

A more recent study on 253 companies in Slovenia analysed the representation of women in decision-making (leadership) positions. Robnik (2012a) showed that women are under-represented in decision-making levels in the analysed companies, in that only 7 of 253 analysed companies had established specific mechanisms to promote a balanced gender representation in leading positions, and only six companies aimed to adopt such measures. Those organisations that had adopted specific measures for gender equality stated as a reason the commitment of the company towards a non-discriminatory employment policy. However, the majority of the surveyed companies had no measures implemented, stating that it was not being considered by the company decision-makers (48.2 % of the analysed companies). Further reasons include a perceived lack of women

who can be selected to fill such positions, or a perceived lack of experience among the available women. The study itself does not provide recommendations for remedying the under-representation of women in decision-making positions in private businesses. In the public sector a gender quota was introduced in 2004. However, such a quota has not been discussed in private companies so far, and the share of women in decision-making positions remains low.

In a study on gender equality in family life and in partner relationships co-financed by the PROGRESS programme of the European Commission, Robnik (2012b) analysed the work–family conflict in Slovenia in terms of domestic work and care for children. The results show that the most problematic issues centre around the unequal share of household tasks such as cooking, housekeeping and ironing, showing that domestic work remains ‘women’s work’.

Key macroeconomic impacts of gender equality

Some studies analyse the representation of women in the labour market and social welfare policies impacting the position of women in Slovenian society.

Humer and Roksanđić (2013) identified that austerity measures introduced through the adoption of the Fiscal Balance Act in 2012 in order to balance public finance had adversely impacted women in the Slovenian labour market, but also in Slovenian society in general. The study focused on the impact on work (paid and unpaid work) and benefits introduced by the welfare state (social benefits, pensions, poverty, and social exclusion measures), identifying negative consequences of certain actions in these areas for women. However, the study described how the austerity measures in Slovenian economic and social policy contributed to a worsening of the position of women. Humér and Roksanđić (2013) note that the austerity measures were adopted without assessing their effects on the situation of women. They further note that measures reducing family allowances, leave for child-care, child allowance and restrictions on access to social security benefits increased risk of poverty for women and contributed to a strengthening of the dependence of women on other family members (e.g. their husbands). According to the authors, cuts in the public sector, particularly in the field of health and social care, take away responsibility for care from the government and shift it to households, especially women, who do the majority of informal household and care work, leading to a return to traditional gender roles in Slovenia (see also Robnik, 2012b).

An earlier study by Hrženjak (2008) analysed possible impacts of regulating domestic work on long-term

unemployed women through a pilot experiment including long-term unemployed women as domestic workers in Slovenian households. The author described the positive aspects of this regulation, mainly the better social inclusion of the long-term unemployed. However, the author also provided a critical analysis of such a regulation including further marginalisation of such groups through the creation of low-paid jobs connected with low social esteem and even precarious working conditions. Nevertheless, the author provides several recommendations for regulating domestic work in Slovenia that would have an impact on the economy:

- Subsidies for the creation of new jobs covering 50 % of the gross wage of a domestic worker, which would reduce the price for households and create regular labour relations for the workers;
- Attractive wages for domestic workers in order to combat wages on the black market;
- Aspiration towards a standardisation of domestic work, quality working conditions and a de-feminisation of this line of work.

According to the author, such a regulation of domestic work would require commitment from the government, including financial subsidies.

A study focusing on the social impacts of violence against women in Slovenian society was conducted as an evaluation of the first national survey on violence in the private sphere and intimate partnerships in Slovenia in the period of 2008-2011 (Leskošek et al., 2010). The survey showed that over 55 % of women have experienced violence including psychological violence (49.3 %), physical violence (23 %), economic violence (14.1 %), restriction of movement (13.9 %) and sexual violence (6.5 %). Over 90 % of the perpetrators were men. The women who have experienced violence were less healthy compared to women in general. Around 44 % of the victims described their health as poor or very poor. These figures obviously have an impact on the health system in Slovenia, contributing to the costs for psychological services or similar. However, the study has not provided concrete figures. Since a high percentage of the surveyed women stated that they remain in a violent relationship because of unemployment and no possibility of financing separate housing, the authors emphasise the role of the government in providing better assistance for women victims of domestic violence, e.g. in terms of providing adequate housing enabling women to escape their violent households.

The remaining analysed studies do not provide clear macroeconomic impacts of gender equality in Slovenia.



Conclusions

The analysed studies rely on simple estimates of the impact of gender equality in Slovenia. They focus on women in the labour market and in leadership positions, but also analyse the impact of the Slovenian welfare state on the employment of women or their time use at home. A notable focus of some studies is the analysis of the impact of the economic crisis on gender equality, giving a macroeconomic perspective on issues in gender equality and the overall situation in the Slovenian economy.

Although Slovenia is characterised through the EU Gender Equality Index with above average gender equality, several open issues remain, including the representation of women in decision-making positions and the prevalence of traditional gender roles.

The share of women in decision-making positions in Slovenia has been constantly low. The study by Robnik (2012a) confirmed the lack of interest for the implementation of gender equality measures at company level — for example, in 2015 women were presidents of management boards in only 2 out of the 20 largest Slovenian companies, and represented only 29 % of posts on the management boards of these companies (European Commission, 2016). The representation of women in leadership positions is not regulated by the Slovenian government and only a few companies have implemented their own initiatives to enhance the number of women in leadership positions. The issue of the under-representation of women in decision-making positions is currently addressed by the Section of Women Managers of the Managers' Association of Slovenia⁽⁷⁷⁾, leaving a gap in government policies.

A particularly important issue is the response of the Slovenian government to the economic crisis and the implemented austerity measures that seem to 'further threaten the position of women in the society' (Humer and Panić, 2014, p. 38), by not adequately addressing women's needs. Humer and Roksandić (2013) criticise the lack of interest in such analyses from the political establishment, noting that the issue of anti-crisis measures and gender equality is a marginal theme, which is reflected through the fact that their study was the first one carrying out such an analysis. The authors conclude that an assessment of the anticipated effects of the austerity measures on women and men could lead to a different set of government actions and

decisions. They recommend the adoption of targeted measures for those groups that are most affected, particularly women with children in single parent families and elderly pensioners who live alone.

Some of the recommendations described in this summary have been included in laws and policies at national level (e.g. the 2002 Equal Opportunities for Women and Men Act), although some of the policies (e.g. the Fiscal Balance Act) remain 'gender blind' (Humer and Panić, 2014).

Bibliography

European Commission (2016), *Gender Equality. Gender Balance in decision-making positions. Board members*, available at: http://ec.europa.eu/justice/gender-equality/gender-decision-making/database/business-finance/supervisory-board-board-directors/index_en.htm [accessed 29 April 2016].

European Institute of Gender Studies (2014), *Estimating the costs of gender-based violence in the European Union: Report*, available at: <http://eige.europa.eu/node/393>

Humer, Ž. and Panić, S. (2014), *The policy on gender equality in Slovenia. Study for the FEMM Committee*, European Parliament, Brussels, available at: [http://www.europarl.europa.eu/RegData/etudes/STUD/2015/510010/IPOL_STU\(2015\)510010_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2015/510010/IPOL_STU(2015)510010_EN.pdf) [accessed 21 March 2016].

Humer, Ž., Roksandić, M. (2013), *Protikrizni ukrepi in enakost spolov* (The anti-crisis measures and gender equality), Ženski lobi Slovenije (Slovenian Women Lobby), Ljubljana, available at: http://www.mddsz.gov.si/fileadmin/mddsz.gov.si/pageuploads/dokumenti___pdf/enake_moznosti/NVO2013ProtikrizniUkrepilnEnakostSpolov.pdf [accessed 21 March 2016].

Hrženjak, M. (2008), 'Expanding the Public System of Household Assistance: A Pilot Experiment in Slovenia', *CONTEMPORARY Issues*, Vol. 1, No 1, pp. 34-48.

Leskošek, V., Urek, M. and Zaviršek, D. (2010), *Nacionalna raziskava o nasilju v zasebni sferi in v partnerskih odnosih: Končno poročilo 1. faze raziskovalnega projekta* (National survey on violence in the private sphere and in partner relationships: The final report of Phase 1 of the research project), Inštitut za kriminologijo pri Pravni fakulteti v Ljubljani (Institute of Criminology at the Faculty of Law in Ljubljana), Ljubljana, available at: <http://www.arhiv.uem.gov.si/fileadmin/uem.gov.si/pageuploads/NasiljeRaziskava2010.pdf> [accessed 21 March 2016].

⁽⁷⁷⁾ An example is the *Vključi.Vse: za uravnotežena vodstva* (Include all: For balanced leadership) programme by the Section of Women Managers of the Managers' Association of Slovenia, aimed at promoting a balanced gender representation in management boards of Slovenian companies. For further information, see <http://www.zdruzenje-manager.si/stroka/management/vkljudivse> (in Slovenian).

Robnik, S. (2012a), *Uravnotežena zastopanost žensk in moških na mestih odločanja v gospodarstvu: Analiza stanja* (Balanced representation of women and men in decision-making positions in the business sector: A situational analysis), Urad za enake možnosti (Office for Equal Opportunities), Ljubljana, available at: <http://www.arhiv.uem.gov.si/fileadmin/uem.gov.si/pageuploads/EkonomskoOdlocanje/AnalizaEnakostSpolovGospodarstvo.pdf> [accessed 21 March 2016].

Robnik, S. (2012b), *Enakost spolov v družinskem življenju in v partnerskih odnosih* (Gender equality in family life and in partner relationships), Ministrstvo za delo, družino in socialne zadeve, Služba za enake možnosti in evropsko koordinacijo (Ministry of Labour, Family and Social Affairs, Office for Equal Opportunities and European Coordination), Ljubljana, available at: http://www.mddsz.gov.si/fileadmin/mddsz.gov.si/pageuploads/dokumenti___pdf/enake_moznosti/RaziskavaEnakostSpolovPartnerstvo.pdf [accessed 21 March 2016].



Slovakia



This factsheet provides an overview of available national evidence of the economic outcomes of gender equality in the areas of labour market participation and pay gap.

In Slovakia, there are no studies that try to rigorously assess macroeconomic impacts of gender equality. There are a couple of studies that assess this issue qualitatively (Gerbery, 2010; Marosiova et al., 2006), paying specific attention to barriers that prevent women with young children from entering the labour market. This literature aims to provide some explanations for the lower employment rate of women and sometimes discusses its links with the macroeconomic performance.

An important strand of research in Slovakia relates to gender pay gaps. There is one study that aims to rigorously assess the potential causes of gender pay gaps (Jurajda, 2003). There are also several other studies that assess these causes qualitatively or by presenting descriptive quantitative statistics (Lauko et al., 2012; Barosova, 2007; Tartalova et al., 2013; Danielova et al., 2012, 2015). None of these studies discuss the macroeconomic impact of gender pay gaps.

Finally, there are some studies that discuss the prevalence of domestic violence (for the most recent example, see Holubova, 2014), but none of them try to assess the economic costs of violence. Thus they are excluded from this study.

Summary table of quantitative studies on economic benefits of gender equality

Area of gender equality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
Labour market participation	Employment	Some researchers (Gerbery, 2010; Marosiova et al., 2006) argue that much of the difference between the employment rates of women and men is likely to relate to motherhood. More specifically, Gerbery (2010) argues that women are mainly responsible for childcare in Slovakia and this contributes to their exclusion from the labour market. The only study that links gender equality to macroeconomic outcomes focuses on childcare availability (Gerbery, 2010): low childcare availability for children under the age of three is perceived as one of the key factors that reduces employment of women and thus potentially negatively affects macroeconomic performance.	Descriptive statistics, qualitative analysis <i>Data sources:</i> Institute of Statistics and Predication in Education (http://www.uips.sk) on proportion of children in childcare; European Commission research on employment rates of women with children (EC, 2009).
Gender pay gap	Gender pay gap	No evidence of macroeconomic impact; one study rigorously models microeconomic causes of the gender pay gap (Jurajda, 2003)	Micro-econometric analysis <i>Data sources:</i> Information System on Average Earnings for Wages (national survey); EU LFS

Overview of research methods used

There is no study in Slovakia that focuses on rigorous macroeconomic modelling of the economic impacts of gender equality. There are a couple of studies (Gerbery, 2010; Marosiova et al., 2006) that discuss some potential impacts of gender equality on overall employment rates. The methodology of these studies is limited to broad qualitative discussions that are illustrated by some national statistics or survey results.

There is one study in Slovakia that uses rigorous micro-econometric analysis to assess causes of wage gaps

(Jurajda, 2003). This study uses econometric analysis to attribute parts of observed wage gaps to specific causes (such as labour segregation according to sectors), following methodology developed in Oaxaca & Ransom (1994). However, the study controls for relatively few factors that can influence gender pay gaps, which can introduce bias in its results.

There are also a few additional studies that analyse wage gaps through less advanced quantitative methods (Lauko et al., 2012; Barosova, 2007; Tartalova et al., 2013; Danielova et al., 2015 and 2012). These studies typically rely on producing detailed descriptive statistics to illustrate sizes



of gender pay gaps in different sectors and regions. They do not apply any additional statistical methods to analyse causes of these pay gaps.

Overall, in the few cases in which Slovakian studies provide any indications of the economic impacts of gender equality on economic outcomes, these are described qualitatively and may to a certain extent reflect subjective hypotheses of the authors rather than robust research results. There is no discussion on how these outcomes (such as the improved employment rate of women) may affect other parts of the economy (such as the employment rate of men or overall labour productivity).

The data sources used include the EU Labour Force Survey (LFS) for employment rates of women with and without children, EU Statistics on Income and Living Conditions (SILC), a national employer survey called Information System on Average Earnings for Wages, primary survey data collected on opinions about the role of mothers in Slovakian society, Eurostat data, and other national sources of data.

How does gender equality affect economic outcomes?

There are persistent differences in terms of the activity and employment rates of men and women in Slovakia. In 2014, 77.6 % of men aged 15 to 64 were active compared to 62.9 % of women, a difference of almost 15 percentage points. A similar difference is apparent for employment rates — about 67.6 % of men aged 15 to 64 were employed compared to 54.3 % of women in 2014 ⁽⁷⁸⁾.

This attracted the attention of some researchers (Gerbery, 2010; Marosiova et al., 2006), who argue that much of the employment gaps are likely to relate to motherhood. More specifically, Gerbery (2010) argues that women are mainly responsible for childcare in Slovakia and that this contributes to their exclusion from the labour market. To substantiate his argument, the author uses some descriptive statistics:

- He assumes that motherhood is typically associated with ages from 25 to 39. He then proceeds to show that women aged 25 to 34 are particularly disadvantaged in the labour market — women in this group have a lower employment rate than men in the same age group by more than 20 percentage points. This is much higher than for other age groups, which the author interprets as evidence of the negative effect of childcare on the labour market participation of women.

⁽⁷⁸⁾ Based on Eurostat data.

- He argues that this employment gap is likely to be caused by the low availability of childcare, particularly for the youngest children below the age of three. He associates this with two statistics provided at national level: (i) less than 10 % of these children are in formal childcare ⁽⁷⁹⁾ and (ii) women with children aged 0 to 5 have an employment rate of 37.9 % compared to an employment rate of 78.3 % for women with children aged 6 to 11 (European Commission, 2009).

Marosiova et al. (2006) highlight the fact that women take most of the responsibility for childcare, at least partially because that is what Slovak society expects from them. A significant part of the Slovak population acknowledges that this is disadvantageous for women in the labour market. In an analysis of a public opinion survey ⁽⁸⁰⁾, the authors find that:

- 83 % of respondents think that primary carers for children should be their mothers. About two third think that if a mother does not stay with a child for the first 3 years of her or his life, this will have a detrimental effect on the child.
- About 77 % of respondents think that motherhood or pregnancy disadvantages women on the labour market. About a half think that staying at home with children for 3 years will lead to loss of professional expertise or negative career effects for mothers.
- About two thirds of respondents think that mothers who spent several years on maternity leave do not receive adequate salaries.
- Overall, about 76 % of respondents think that it is difficult for women to reconcile career and family life.

Wages are perceived as another important factor likely to limit the participation of Slovak women in the labour market (Jurajda, 2003; Lauko et al., 2012; Barosova, 2007; Tartalova et al., 2013; Danielova et al., 2015 and 2012). In Slovakia women earned 21.1 % less than men in 2014 ⁽⁸¹⁾ according to Eurostat, which should make employment less attractive for them according to economic theory. In addition, the lower wages of women are likely to limit participation

⁽⁷⁹⁾ Based on statistics from the Institute of Statistics and Predication in Education (<http://www.uips.sk>).

⁽⁸⁰⁾ The Institute for Public Affairs in cooperation with the Agency FOCUS conducted 'Veneta' public opinion research on the status of mothers in society within the project EQUAL. Data were collected in September 2005. The survey sample consisted of 1 003 respondents who were representative of the population of Slovakia aged over 18.

⁽⁸¹⁾ See http://ec.europa.eu/justice/gender-equality/gender-pay-gap/situation-europe/index_en.htm

of men in childcare responsibilities, because families lose more economic income when fathers leave work.

According to a study by Stepan Jurajda (2003), about a third of the gender pay gap is due to various forms of workplace segregation. According to the author, the remainder is likely to be related to childcare-related career breaks and employer discrimination against women on the labour market. Childcare-related career breaks are also mentioned by other authors as a possible reason for wage gaps (Gerbery, 2010; Marosiova et al., 2006).

Other research on gender wage gaps relies purely on descriptive statistics to highlight that there is significant variation in wage gaps by regions, sectors and types of occupation (Lauko et al., 2012; Barosova, 2007; Tartalova et al., 2013; Danielova et al., 2015 and 2012). In practice there are likely to be differences both due to different patterns of employment across sectors, but also due to women progressing less often into well-paid positions within a sector. These studies do not employ a methodology that would enable them to decompose wage gaps along these lines.

Overall, while the above studies explore the causes of the gender pay gap, they do not analyse its impact on the Slovak economy.

Key macroeconomic impacts of gender equality

In Slovakia, there are no studies that attempt to quantify the macroeconomic impacts of gender equality. The only study that links gender equality to macroeconomic outcomes focuses on childcare availability (Gerbery, 2010): low childcare availability for children aged under three is perceived as one of the key factors that reduces employment of women and thus potentially negatively affects macroeconomic performance.

Conclusions

Overall, research that links gender equality to macroeconomic outcomes is scarce in Slovakia: there are no studies that aim to quantify the impacts of gender equality on macroeconomic performance. Slovakia could benefit from additional research in this area, which could provide a more solid evidence base for policymaking.

The existing research identifies low labour market participation of women as one of the key gender gaps related to economic outcomes (Gerbery, 2010; Marosiova et al., 2006). It highlights childcare as one of the important determinants of labour market participation of women: low availability of formal childcare and the traditional perception of women as primary carers for children may limit their labour market participation.

In addition, a gender wage gap is identified as an important and persistent issue in the Slovak labour market (Jurajda, 2003; Lauko et al., 2012; Barosova, 2007; Tartalova et al., 2013; Danielova et al., 2015 and 2012). While part of the wage gap is likely to be explained by vertical and horizontal gender segregation on the labour market, part of it is also likely to be related to employer discrimination and childcare-related career breaks (Jurajda, 2003).

Thus, the key recommendations for the future are to develop a more extensive network of childcare provision and to adopt measures to reduce the gender pay gap. This is reflected in the National Action Plan for Gender Equality for 2014-2019, which includes measures to reduce gender pay gaps and to improve childcare availability as its core priorities.

Bibliography

Barošová, M. (2007), *Rodová segregácia na trhu práce. Rodina a práca*, 5, pp. 21-62.

Danielová, K. and Lauko, V. (2012), *Rodový rozdiel miezd – východiská a problémy. Geographia Cassoviensis*, 6, pp. 5-17.

Danielová, K. and Lauko, V. (2015), *Rodový Rozdiel Miezd A Disparity V Odmeňovaní V Okresoch Slovenska V Období 2001-2014, Acta Geographica Universitatis Comeniana*, Vol. 59, No 2, pp. 173-202.

European Commission (2009), *Reconciliation between Work, Private and Family Life in the European Union*, Office for Official Publications of the European Communities, Luxembourg.



Gerbery, D. (2010), *Starostlivosť o deti a trh práce. rodová perspektíva v ekonómii*, p. 47.

Holubova, B. (2014), *Správa o násilí páchanom na ženách na Slovensku za roky 2012 a 2013. IVPR*.

Jurajda, Š. (2003), 'Gender wage gap and segregation in enterprises and the public sector in late transition countries', *J. Comp. Econ.*, Vol. 31, pp. 199-222.

Lauko, V. and Danielová, K. (2012), *Priestorová diferenciácia rodových rozdielov miezd na Slovensku. Geographia Cassoviensis*, 6, pp. 3-114.

Marošiová, L., Šumšalová, S. and Bútorová, Z. (2006), *Matky na trhu (práce a života). Výskumná štúdia*, Institut pre verejné otázky, Bratislava.

Tartaľová, A. and Sovičová, T. (2013), *Analýza príjmovej diferenciácie mužov a žien na Slovensku*.



Finland



This factsheet provides an overview of available national evidence of the economic outcomes of gender equality in the areas of pay gap, decision-making and violence against women.

There are few studies in Finland that aim to rigorously assess the potential causes and economic impacts of gender inequality. There is a comprehensive quantitative study which analyses the relation between a company's profitability and the share of women in the corporate board and as CEOs (Kotiranta, Kovalainen and Rouvinen, 2007). There are also several studies which focus on gender pay gaps and their possible causes. We introduce three studies on gender pay gaps (Asplund, Lilja and Sajava, 2008; Asplund and Napari, 2011; Riihelä, Sullström and Tuomala, 2014).

In addition, there are some studies which focus on women's entrepreneurship and women's career development in Finland. One of the studies on women's entrepreneurship uses quantitative methods and also discusses the economic impacts of women's entrepreneurship (Arenius and Kovalainen, 2006). The other studies are purely qualitative and do not discuss economic impacts, and are therefore excluded from this factsheet.

There are also additional studies that explore the gendered economy either more qualitatively or through simple descriptive analysis of national data from Finland. We introduce two books which present collections of articles exploring links between economy and gender from different perspectives (Halko, Mikkola and Ruuskanen, 2010; Pietiläinen, 2013).

Summary table of quantitative studies on economic benefits of gender equality

Area of gender equality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
The share of women in the corporate board and as CEOs	Return on assets (ROA) ratio Return on investments operating margin	A firm can gain a competitive advantage through providing gender-equal career development possibilities because a company led by a woman CEO was on average more profitable than a corresponding company led by a male CEO (Kotiranta et al., 2007) The average profitability of firms was 12.3 % and the average profitability of firms with a woman CEO was 14.0 %. The difference (1.8 percentage points) compared to the average of 12.2 % among firms managed by a male CEO was statistically highly significant (1 % level).	Statistical and micro-economic analysis <i>Data sources:</i> Statistics Finland, Asiakastieto Oy, Etlatiety Oy, and calculations by the authors.
Gender pay gap	Wages Wage differences Income differences (Gini coefficient)	The studies on gender pay gaps analyse their causes rather than economic impacts (Asplund et al., 2008, Asplund and Napari 2011, Riihelä et al., 2014).	Hierarchical probability model (Asplund et al., 2008) A decomposition method based on unconditional quantile regression techniques (Asplund and Napari, 2011) Statistical analysis (Riihelä et al., 2014) <i>Data sources:</i> Confederation of Finnish Industries; Statistics Finland.
Violence against women	Costs to the economy	Heiskanen and Piispa (2001) estimate that violence against women cost Finnish society EUR 101 million in 1998, amounting to 0.08 % of Finnish GDP in that year according to Eurostat. About half of these costs resulted from direct costs to the health, social and judicial sectors and the other half from indirect costs of deaths caused by violence against women.	Quantitative cost estimation supported by qualitative research <i>Source:</i> survey on prevalence of violence against women and various administrative data sources (for more details, see Heiskanen and Piispa, 2001).



Overview of research methods used

There is no study in Finland that focuses on rigorous macroeconomic modelling of the economic impacts of gender equality. The quantitative studies which aim to analyse economic impacts of gender equality focus on microeconomic questions, such as how gender equality impacts on companies' profitability, and the estimates of macroeconomic impacts rely on extrapolations from these findings. Often, the macroeconomic impacts are not even estimated or the estimates are provided as hesitant discussions.

The study by Kotiranta et al. (2007) uses profitability as a dependent variable, and the gender of the CEO and the share of women on the corporate board as independent variables. It is explained that in the study profitability refers to the adjusted return on assets (ROA) ratio, which was regarded as the best indicator and which gives results that are fairly uniform with the other alternatives. The other profitability indicators in the study include the return on investments and the operating margin. The study states that the employed sample covers 91 % of the target population, making the sample the most extensive and representative firm-level data used in gender research, even internationally.

The studies on gender pay gaps in Finland do not focus on measuring the impacts of gender pay gaps on the economy but, instead, they mainly focus on measuring the current or historical situation and on discussing the possible causes of gender pay gaps. The study by Asplund, Lilja and Sajava (2008) examines wages of white collar workers in the technology industry. The study uses a hierarchical probability model to examine how differences in women's and men's wages and occupational positions can be explained. In addition to gender, they use several variables, including age, the level and field of education, and work experience. In another study, Asplund and Napari (2011) compare the gender wage differentials of innovation and non-innovation workers. The study applies a decomposition method based on unconditional quantile regression techniques to identify key factors underlying the gender wage gaps. The study by Riihelä et al. (2014) aims to identify the impacts of population structure on income differences between women and men. They compare the Gini ⁽⁸²⁾ coefficients in the income levels of women and men.

There are also studies focusing on women's entrepreneurship. These studies are mostly qualitative and aim to illustrate the situation and provide explanations. One of the exceptions is a study by Arenius and Kovalainen (2006). This

study uses logistic regression analysis to estimate the factors that influence women's participation as entrepreneurs in the new firm formation process.

Other studies examining the gendered economy typically use simpler, descriptive analysis of Finnish data to illustrate how employment, education and care work are gendered in Finland and discuss the gendered economy on a general level (Pietiläinen, 2013; Halko et al., 2010). For example, the articles in the collection edited by Halko et al. (2010) do not focus on economic growth but some of them discuss political choices in economic matters and the possibilities of promoting gender equality and the well-being of families through these choices. The studies in another article collection (Pietiläinen, 2013) present and analyse Finnish data and provide material for discussing economic impacts.

The studies typically make statistical comparisons between women and men in order to explain the causes of differences between women's and men's economic positions in Finland. Different variables are used in order to find out to what extent the differences can be explained through gender and to what extent they can be explained through other variables.

There is also one study that aims to estimate the cost of violence against women to Finnish society (Heiskanen and Piispa, 2001). It relies on survey and administrative data sources to produce cost estimates of violent incidents to health, social and judicial sectors. It also quantifies the indirect costs of deaths resulting from violence against women by using the human capital approach.

How does gender equality affect economic outcomes?

Equal and well-functioning organisations are seen as one of the key ways in which increased gender equality can contribute to the Finnish national economy. The study by Kotiranta et al. (2007) aims to prove this claim through providing quantitative evidence: according to the study, a firm may gain a competitive advantage through providing gender-equal career development possibilities.

In addition, gender pay gaps (Asplund et al., 2008; Asplund and Napari, 2011; Riihelä et al., 2014), other gendered differences in terms of employment, and gender segregation are seen as challenges to achieving gender equality in working life. The existence of day care services for children and more equal sharing of care work are also linked to this discussion. In all of these cases, the underlying assumption is that gender equality contributes to more efficient economic performance.

⁽⁸²⁾ The Gini coefficient is a measure intended to represent the income distribution of a nation's residents, and is the most commonly used measure of inequality.

Studies on gender pay gaps have identified the determinants of gender pay gaps. The study by Asplund et al. (2008) concludes that, particularly in the higher positions, the determinants of wage and career development cannot be explained by such variables as educational background or work experience. Instead, the determinants include qualities which are more difficult to measure, such as personal characteristics, social skills and personal networks. The study also found out that in the most profitable units the gender pay gap is smaller than in less profitable units. The study by Asplund and Napari (2011) found that the gender pay gap was smaller among innovation than non-innovation workers. The authors suggest that the reason behind the difference might be due to more gender segregation and slower introduction of new modes of pay in non-innovative occupations. The study which examined the development of income differences from a historical perspective concludes that the income differences grew in Finland particularly in the late 1990s after the economic depression and that during this period mainly men's incomes increased (Riihelä et al., 2014). The authors explain that the main reason for men's increased incomes is, however, the increase in incomes from capital.

The articles presented in the collection edited by Pietiläinen et al. (2013) describe the current state of gendered employment and share of care responsibilities in Finland. For example, Elina Nikkilä provides data on gender segregation in employment and concludes that women and men typically work in different professions. Merja Kauhanen examines the terms of employment and argues that women clearly have fixed-term and part-time contracts more often than men. Hanna Sutela analyses how different terms of employment influence fertility and states that women with fixed-term contracts are more unlikely to give birth to their first baby than women with permanent contracts. The direct links to economic outcomes are not the focus of these articles but could be inferred based on their analysis and data.

Besides the positive impact of gender-equal and well-functioning organisations, some studies discuss the economic benefits of increased participation of women in certain types of employment. For example, the study by Arenius and Kovalainen (2006) focuses on women's entrepreneurship in Finland. They argue that the economic growth potential in most industrialised countries is gendered and that, due to lack of paid employment opportunities, women's entrepreneurship becomes more important than before. Hence they assume that the increased participation of women as entrepreneurs would benefit the Finnish economy.

Key macroeconomic impacts of gender equality

In the study sample used by Kotiranta et al. (2007), the average profitability of firms was 12.3 % and the average profitability of firms with a woman CEO was 14.0 %. The difference (1.8 percentage points) compared to the average of 12.2 % among firms managed by a male CEO was statistically highly significant (1 % level). The authors concluded that the results indicated that a company led by a woman CEO was on average about 10 % more profitable than a corresponding company led by a male CEO. They also found out that higher share of women board members also has a similar positive impact.

According to the authors, these findings suggest that a firm may gain a competitive advantage over its peers by identifying and eliminating the obstacles to women's advancement to top management (Kotiranta et al., 2007). The authors argue that the endeavours of increasing the share of women in top management in Finland should not be hindered because of concerns about private firms' profitability. Indeed, increasing the share of women managers could result into an overall increase in macroeconomic performance, even though the authors do not try to estimate the exact macroeconomic impacts of such a development.

In another study (Heiskanen and Piispa, 2001), the authors estimate that violence against women cost Finnish society EUR 101 million in 1998, amounting to 0.08 % of Finnish GDP in that year according to Eurostat. About half of these costs resulted from direct costs to the health, social and judicial sectors and the other half from indirect costs of deaths caused by violence against women.

Conclusions

Equal and well-functioning organisations are seen as one of the key ways in which increased gender equality can contribute to the national economy in Finland. It is also suggested that the increased participation of women as entrepreneurs would benefit the Finnish economy. However, the authors do not try to estimate the macroeconomic impacts of such developments in numbers.

In Finland, rather equal numbers of women and men participate in the labour market: the employment rates of women and men are both over 70 % and most women and men work full-time. Of all full-time employees 46 % were women in 2014 (Statistics Finland 2014) ⁽⁸³⁾. Hence there is

⁽⁸³⁾ See http://tilastokeskus.fi/ajk/julkistamiskalenteri/kuvailusivu_en.html?ID=10368



not much potential to impact on national economic performance through increasing the labour market participation of women in particular. This might explain why Finnish research on the economic impacts of gender equality focuses on gender-equal and well-functioning organisations.

One of the key recommendations for the future is to support gender-equal career development in organisations through identifying and eliminating the obstacles to women's advancement. Other recommendations are linked to making political choices in economic matters based on the Finnish data and analysis. For example, extensive national childcare services and parental leaves enable the participation of women and men in the labour market and the authors highlight that cutting down the services would have a negative impact on the economy.

Bibliography

Arenius, P. and Kovalainen, A. (2006), 'Similarities and differences across the factors associated with Women's Self-employment Preference in the Nordic Countries', *International Small Business Journal*, Vol. 24, No 1, pp. 31-59.

Asplund, R., Lilja, R. and Sajava, E. (2008), 'Sukupuolten palkkaerot ja sukupuolten välisen segregaaation eri ilmenemismuodot', *Talous and Yhteiskunta*, Vol. 36, No 1, pp. 30-35.

Asplund, R. and Napari, S. (2011), 'Intangibles and the Gender Wage Gap: An Analysis of Gender Wage Gaps Across Occupations in the Finnish Private Sector', *Journal of Labor Research*, Vol. 32, No 4, pp. 305-325.

Halko, M.-L., Mikkola, A. and Ruuskanen, O.-P. (2010), *Naiset, miehet ja talous*, Helsinki: Gaudeamus.

Kotiranta, A., Kovalainen, A. and Rouvinen, P. (2007), *Female Leadership and Firm Profitability*, available at: http://www.eva.fi/wp-content/uploads/files/2133_Analyysi_no_003_eng_FemaleLeadership.pdf [accessed 26 February 2016]

Pietiläinen, M. (2013), *Työ, talous ja tasa-arvo*, Statistics Finland, Helsinki.

Piispa, M. and Heiskanen, M. (2001), *The price of violence. The costs of men's violence against women in Finland*, hrsg. von Ministry of Social Affairs and Health, Helsinki.

Riihelä, M., Sullström, R. and Tuomala, M. (2014), 'Ikä, sukupuoli ja tuloerot', *Yhteiskuntapolitiikka*, Vol. 79, No 6.

Statistics Finland (2014), *Women and Men in Finland 2014*, available at: http://tilastokeskus.fi/ajk/julkistamiskalenteri/kuvailusivu_en.html?ID=10368 [accessed 2 May 2016].



Sweden



This factsheet provides an overview of available national evidence of the economic outcomes of gender equality in the areas of labour market participation, pay gap and violence against women.

There are few empirical studies that assess the influence of gender equality on economic output and growth in Sweden. Most of these studies tend to focus on a group of countries. These studies tend to show a positive relationship between gender equality and economic growth based on correlation analysis (Löfström, 2009). Such studies do not, however, prove causality or explain the mechanisms that drive this relationship.

While the empirical evidence base is limited, there is a plethora of theoretical and qualitative studies that focus on gender equality in relation to entrepreneurship, the labour market, education, organisations, leadership and social welfare.

A recent report by Tillväxtverket (2011) provides a useful overview of existing research literature. The report deals with gender perspectives in regional growth initiatives,

but also provides a summary of the results of a literature review in terms of economic growth and gender equality. This includes all international, national and regional studies. Another useful report is the evaluation of the Vinnova Programme (2009), which provides a research overview in terms of innovation and gender equality.

A very recent and interesting contribution is the report of the National Institute of Economic Research (2012). This provides a research overview of differences in preferences between women and men, as well as an overview of the relationship between gender equality and economic growth.

The Swedish literature also raises some important questions about the definition and measurement of sustainable and inclusive growth (gender equality is part of the latter) ⁽⁸⁴⁾. There is no agreed methodology for measuring sustainable or inclusive growth. Moreover, there is some ambiguity regarding whether gender equality leads to economic growth or economic growth itself results in gender equality. There are also some question marks regarding the ambition levels for gender equality.

Summary table of quantitative studies on economic benefits of gender equality

Area of gender equality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
Labour market participation	Economic output (GDP)	<p>Löfström (2009) showed that gender equality in the labour market could result in an increase in Swedish GDP of 21 % (assuming productivity levels and employment levels were the same for women as for men). The percentage distribution of this hypothetical increase is as follows:</p> <p>16 % of the increase is a result of an increase in women's labour market participation rate;</p> <p>41 % is explained by a convergence in wage levels between women and men; and</p> <p>43 % of the increase is due to a convergence of hours worked between women and men.</p>	<p>Macroeconomic model that assumes:</p> <ul style="list-style-type: none"> that women's activity rate becomes equal to that of men; that women's part-time work declines to the level of men's; that women's productivity becomes equal to that of men. <p><i>Data sources:</i> official secondary data (e.g. EU Labour Force Survey).</p>

⁽⁸⁴⁾ See, for example, Tillväxtverket (2011).



Gender pay gap	Wages	There are several studies that look at different causes of gender pay gaps, but they do not discuss their impact on macroeconomic performance (JämO, 2008; Olsson, 2009; Johansson and Katz, 2007), Olsson (2009) estimates that SEK 54 billion would need to be reallocated from the men's to women's payroll, an amount equivalent to over 4 % of the total wages in the economy, in order to remove the wage gap. Alternatively, if the wage gap were removed by paying women the same as men, SEK 102 billion, or more than 8 % of payroll, would be required.	Micro-econometric analysis <i>Data sources:</i> register-based data, national survey data.
Violence against women	Cost to the economy	The socioeconomic costs of intimate partner violence are estimated at between SEK 2 695 million and SEK 3 300 million a year (Envall and Eriksson, 2006). The information applies to the year 2004.	Cost analysis <i>Data sources:</i> official criminal statistics, victim of crime surveys, various other public administrative sources on costs.

Overview of research methods used

Many studies that analyse the relationship between gender equality and economic output and growth are cross-country studies that are based on correlation analysis. Gender equality conclusions in such studies are often based on an index that provides an overall measure of gender equality. For example, Löfström (2009) presents a diagram between GDP per capita and the Gender Development Index (GDI) for EU Member States (excluding Luxembourg). This shows a positive and significant correlation between GDI and GDP per capita, suggesting that among the EU Member States gender equality, as measured through the GDI, varies positively with GDP (per capita). The causality is, however, unknown.

Other gender equality indices that are commonly used include EIGE's Gender Equality Index, the Gender Equity Index (GEI) produced by Social Watch, and the Global Gender Gap Index (GGG) produced by WEF.

There are a number of limitations with cross-country studies including data quality and standardisation. The use of different indicators in the different indices also tends to show varying strengths of correlation. More fundamentally, correlation analysis does not prove causality.

A few empirical studies focus on how gender (in)equality influences factors that are closely connected to economic development. Such factors include wages, education and labour market participation. These studies tend to use survey-based and/or registration-based data. For example, in examining the impact of skill mismatch on wage differences between women and men in Sweden, Johansson and Katz (2007) primarily used the Swedish Household Income Survey (HEK). This survey is collected through telephone interviews,

but also includes data from administrative registers and tax return forms. The survey provides a range of data measuring income, transfers and taxes. It also includes several individual and job characteristics, for example, industry, socioeconomic status, region of residence and marital status. The probability of being over- and undereducated were estimated using multinomial logit models. The study also made use of Oaxaca and JMP decomposition methods.

How does gender equality affect economic outcomes?

The theoretical connections between gender equality and economic growth are based on a range of literature (both international and national). In the report by Tillväxtverket, *Att välja jämställdhet*, gender equality is particularly considered to contribute to economic growth by:

- making more effective use of human capital;
- deepening the democracy and increasing social capital;
- increasing regional attractiveness; and
- improving innovation capabilities.

The labour market is perhaps the area in which gender equality can have the most direct potential to influence how resources are used in economies. For example, if access to education and the labour market is different between women and men, the use of resources is not optimal. This is also an area that has been researched extensively.

Gender equality has also been shown to be important for social capital and democracy. Improved social capital and democracy may improve economic growth through increased levels of trust and social inclusion. Empirically, the link between improved social capital and democracy and economic growth has not been researched to a great extent in Sweden.

Another area that has been discussed in the literature is the role of gender equality in terms of innovation. Innovation and the quality of human capital are important elements of endogenous growth theories. Various studies have shown that innovation policies have focused primarily on men's contribution to innovation and economic activities that are perceived as masculine (Lindberg, 2004; Pettersson, 2007). If the funding available for innovation activities were more equal across genders, then the innovation capabilities and opportunities would extend across a wider range of sectors. This in turn could increase both economic growth and gender equality (Lindberg, 2010). Danilda and Grant Thorslund (2011) also provide a number of arguments for gender equality in innovation. For example, they argue that gender equality is a driver for creativity and innovation, and that product development can be made more effective if it involves experiences from both genders' use of the products. They also argue that gender equality may provide better opportunities for innovative design, as well as making companies more attractive to workers, which will help attract and retain talented workers.

In addition to the above, the Swedish literature also emphasises the role of social infrastructure (social insurance, education, childcare, etc.) for gender equality and sustainable and inclusive growth. For example, Löfström (2001) notes that empirical research on labour supply tends to focus on wage levels and taxes, although social infrastructures, such as social insurance systems, are of special importance to women's labour supply. This is because women often have to combine the roles of parenthood and gainful employment.

Recent research has also alluded to the fact that differences between women's and men's preferences may help explain some differences in terms of wages and labour market outcomes (NIER, 2012).

Key macroeconomic impacts of gender equality

As most of the studies are theoretical, there is limited evidence regarding macroeconomic impacts of gender equality. A recent cross-country study by Löfström (2009), however, showed that gender equality on the labour market

could result in an increase in Swedish GDP of 21 % (assuming that productivity and employment for women are the same as for men). Across the EU as a whole, the increase is estimated at 27 %. The percentage distribution of this hypothetical increase is as follows:

- 41 % of the increase is a result of an increase in women's labour market participation rate;
- 31 % is explained by a convergence in wage levels between women and men; and
- 28 % of the increase is due to a convergence of hours worked between women and men.

Other Swedish empirical studies tend to focus on specific areas in which gender equality may influence the economic development. Such areas include wages, education, labour market participation, and distribution of power (NIER, 2012).

With regard to wages, studies have shown that wage discrimination is a problem but that the quantitative impact on macroeconomic indicators is relatively small. For example, JämO (2008) mapped the wages of 703 000 employees in two phases between 2006 and 2008. Out of these, 5 300 individuals (around 0.7 %) were deemed to have been discriminated against in terms of their wage (based on the criteria set out in the relevant law). Among these 90 % were women. This suggests that wage discrimination explains only a relatively small share of the overall wage gap between women and men. A more important factor in explaining the wage gap is the uneven distribution of women and men across different occupations and sectors. Olsson (2009) has estimated how much it would cost to redistribute wages to remove the wage gap. He estimates that SEK 54 billion would need to be reallocated from the men's to women's payroll, an amount equivalent to over 4 % of the total wages in the economy, in order to remove the wage gap. Alternatively, if the wage gap were removed by paying women the same as men, SEK 102 billion, or more than 8 % of payroll, would be required.

Another way that gender equality can influence economic growth is through equal access to education. In Sweden, equal access to education is not generally an issue. Indeed, women account for a greater share of university graduates, which has resulted in some over-education problems. Johansson and Katz (2007) have examined the influence of over-education and under-education in terms of the wage gap between women and men. The research by Johansson and Katz (2007) showed that women gain a lower return on their educational attainment than men. The reason for this is that women are more likely to have more formal education than what is normally required for their occupation



(over-education), while men are more likely to have less (under-education). Specifically, Johansson and Katz (2007) estimate that when both women and men have the appropriate level of education for their jobs, the reward to each additional year of education (above 6 years of schooling) is in the 6-8 % range for men and the 4-6 % range for women. The wage effects of gender differences in skill mismatch are an addition to this. It can therefore be concluded that over- and under-education contribute far more to the gender wage gap than years of schooling and work experience. In decompositions, adjusting for skill mismatch decreases the gender wage gap by between one tenth and one sixth. This is roughly a third to a half as much as is accounted for by segregation by industry. Thus, taking skill mismatch into account is essential for the analysis of gender wage differentiation, even though it does not alter the result that the estimated returns to education are smaller for women than for men in Sweden.

Labour market participation among women is relatively high in Sweden and is only about 3 to 4 percentage points lower than for men (Statistics Sweden). The gap between women and men is, however, significantly wider in terms of hours worked (Statistics Sweden). The hours worked can be directly connected to economic output and growth. Thus, to the extent that this gap in hours worked is 'involuntary', it could be expected to have a significant impact on economic output and growth.

Another factor that has been discussed in the literature is the number of women in leading positions and on company boards. Various research projects have examined the impact on company performance arising from a higher proportion of women in leadership positions. These show evidence of a positive relationship between proportion of women in leadership and the economic performance of a company, but do not prove any causality.

With regards to violence against women, it has been estimated that the socioeconomic costs are between SEK 2.7 billion (or EUR 293.5 million) and SEK 3.3 billion (or EUR 359.4 million) a year (Envall and Eriksson, 2006). This includes both direct costs and indirect costs. Direct costs are the costs of the resource consumption entailed in trying to prevent, repair and alleviate the effects of the violence (i.e. healthcare costs, justice system costs, etc.). Indirect costs include estimated production losses and the value of voluntary work.

Conclusions

Empirical research on the relationship between gender equality and economic output and growth tends to be limited to cross-country studies using gender equality indices and correlation analysis.

Other studies have focused on how gender equality may influence various drivers or factors of economic growth. Such studies have particularly focused on gender equality on the labour market, most notably in terms of wages. This may in part be explained by the availability of reliable and robust data within this area.

In other areas where the availability of data is more constrained, the research evidence tends to be restricted to theoretical or qualitative studies.

In order to develop this area further, it will be important to agree on a common definition and methodology for measuring sustainable and inclusive growth.

Bibliography

Danilda, I. and Grant Thorslund, J. (eds.) (2011), *Innovation & Gender*, VINNOVA.

Envall, E. and Eriksson, A. (2006), *Costs of Violence against Women*.

Johansson, M. and Katz, K. (2007), *Wage differences between women and men in Sweden — The impact of skill mismatch*, Arbetsrapport 2007:8, Institutet för framtidsstudier.

JämO (2008), *Miljongranskningen — Resultat av etapp 2 och slutrapport*.

Lindberg, M. (2004), *Samlade tankar om hållbara kluster*, Emma Resurscentrum.

Lindberg, M. (2010), *Samverkansnätverk för innovation — en interaktiv och genusvetenskaplig utmaning av innovationspolitik och innovationsforskning*.

Löfström, Å. (2001), *Gender equality, economic growth and employment*, Umeå Universitet.

Löfström, Å. (2009), *Gender equality, economic growth and employment*, Regeringskansliet Stockholm.

National Institute of Economic Research (2012), *Ekonomisk jämställdhet mellan kvinnor och män — en kunskapsöversikt*, Specialstudier nr 31, Konjunkturinstitutet.

Olsson, H. (2009), 'Vad skulle det kosta att utjämna löneskillnaden? Och hur skulle det gå till inom ramen för nuvarande lönebildningssystem?', in *Nio perspektiv på jämställdhet, En antologi om kvinnors och mäns löner*, Medlingsinstitutet.

Pettersson, K. (2007), *Men and Male as the Norm? A Gender Perspective on Innovation Policies in Denmark, Finland and Sweden*, Nordregio, Stockholm.

Tillväxtverket (2011), *Att välja jämställdhet*.

VINNOVA (2009), *Behovet av genusperspektiv — om innovation, hållbar tillväxt och jämställdhet*, 2009:16, VINNOVA — Verket för Innovationssystem.



United Kingdom

This factsheet provides an overview of available national evidence of the economic outcomes of gender equality in the areas of labour market participation, sharing of unpaid care work, pay gap decision-making and violence against women.

There is a plethora of empirical studies focusing on the UK that aims to estimate the economic impacts of gender inequality and the country is at the forefront of European research in this area. The following literature review provides an overview of the key pieces of existing research, which vary in terms of their focus and degree of sophistication.

The majority of reviewed literature are micro-econometric studies, but there are also some pieces of research that have at least partial macroeconomic focus (Thompson and Ben-Galim, 2014; Women's Business Council, 2013; Mumford and Smith, 2004). In general, the effects of gender inequality on certain issues related to the labour market appear to be the most common area of research. For instance, a considerable number of studies (i.e. Azmat, 2015;

Brewer, Cattan, Craford and Rabbe, 2014; Thompson and Ben-Galim, 2014; Viitanen, 2005; Plankett, 2011) investigated the impact of variations in the provision of childcare on women's employment rate. In the same vein, a number of papers explored the factors that contribute to the gender pay gap (i.e. Olsen and Walby, 2004; Mumford and Smith, 2004; Women Equality Unit, 2013);

Other areas of research revealed through the literature review are the effects of equal opportunities on firm performance (i.e. Perotin, Robinson and Loudes, 2003), effects of gender on the growth of early stage enterprises (Hart, Martiarena, Levie and Anyadike-Danes, 2010), the relationship between gender-equal opportunities policies and business performance (Riley, Metcalf and Fort, 2008) and associated productivity effects derived from the increased number of women in UK boardrooms. In the recently completed cost-benefit analysis commissioned by the European Institute for Gender Equality (EIGE), the research team attempted to estimate the monetary losses caused by the violence committed against women taking place across 28 EU Member States.

Summary table of quantitative studies on economic benefits of gender equality

Area of gender equality	Economic indicator	Evidence of economic impact	Empirical approach and data sources
Labour market participation	Earnings Household income Employment State revenue	A rise of 5 percentage points in the proportion of working mothers employed full-time in Britain would generate a net positive fiscal impact of approximately GBP 700 million annually. At the household level, an increase in the women's employment rate by 5 percentage points would result in an increase in family income of 20 to 28 % (Thompson and Ben-Galim, 2014). Equalising the labour force participation rates of women and men in the UK could increase GDP per capita growth by 0.5 percentage points per year with potential gains of 10 % of GDP by 2030 (Women's Business Council, 2013).	Complex econometric modelling: IPPR's tax-benefit model to assess the impact of a rise in women's employment rate on households and public finances (Thompson, Ben-Galim, 2014) Simple extrapolations from data on women's employment level and wages to derive the approximate net benefit expressed in the percentage of UK GDP (Women's Business Council, 2013) <i>Data sources:</i> ONS employment data in the UK/IPPR calculations using Labour Force Survey/ The UK Family Resource Survey (Thompson and Ben-Galim, 2014) and Labour Force Survey (Women's Business Council, 2013).



Time use	Labour market participation	<p>25 % childcare price subsidy would increase the labour force participation rates of married mothers of pre-school-age children by 3 percentage points (Viitanen, 2005).</p> <p>Entitlement to free part-time early education increases employment rates among mothers, especially those with no younger children, and appeared particularly likely to encourage mothers to move into part-time work (Brewer, Cattán, Crawford and Rabe, 2014).</p>	<p>Regression-based models (Brewer, Cattán, Crawford and Rabe, 2014) including LFP/CCUSE regression models in Viitanen (2005) study.</p> <p><i>Data source:</i> UK Family Resource Survey for fiscal years 1997-2004 (Viitanen, 2005) and British Labour Force Survey (Brewer, Cattán, Crawford and Rabe, 2014).</p>
Gender pay gap	Earnings	<p>Entire reduction of occupational segregation would result in 13 % increase in women's pay in Britain (Olsen and Walby, 2002).</p> <p>Other studies estimated the proportion of the gender pay gap due to different causes, but did not analyse its macroeconomic impact on performance (Olsen and Walby, 2002; Mumford and Smith, 2004).</p>	<p>Micro-econometric analysis (with predominant use of regression techniques), with the decomposition of the earnings gap into particular factors</p> <p><i>Data sources:</i> British Household Panel Survey (Olsen and Walby, 2002), and British Workplace Employee Relations Survey 1998 (Mumford and Smith, 2004).</p>
Business leadership	<p>Growth rates/bankruptcy rates of start-ups</p> <p>Company's performance indicators (TSR, ROA, ROE and PTOB)</p>	<p>Women entrepreneurs start their new business ventures with less capital than men and this may have a negative effect on the growth of start-ups (Hart, Martiarena, Levie, Anyadike-Danes, 2010).</p> <p>Equal opportunities policies were associated with higher productivity in all organisations except British SMEs (Perotin, Robinson and Loudes, 2003).</p> <p>Share of women in the boardrooms of FTSE 350 companies had no significant effect on the companies' performance (Gregory-Smith, Main and O'Reilly, 2012).</p>	<p>Regression analyses</p> <p><i>Data sources:</i> GEM datasets (Hart, Martiarena, Levie, Anyadike-Danes and 2010) and British Workplace Employee Relations Survey (Perotin, Robinson, Loudes, 2003), FTSE350 data on companies' performance and share of women in boardrooms obtained from DataStream (Gregory-Smith, Main and O'Reilly, 2012)</p>
Violence against women	Monetised cost of violence against women	<p>Cost of intimate partner violence against women in the UK was found to be EUR 15.3 billion while the cost of gender-based violence against women was estimated to be EUR 28.4 billion (EIGE, 2014).</p>	<p>Cost-benefit analysis (EIGE, 2014)</p> <p><i>Data sources:</i> triangulation of various qualitative and quantitative data sources (EIGE, 2014).</p>

Overview of research methods used

Unlike in other countries, there are studies in the UK that applied macroeconomic modelling in a rigorous way or alternatively attempted to gauge the impact of various forms of gender inequality at the aggregate level of the economy by using some simpler approaches such as extrapolation from macroeconomic data.

For instance, Mumford and Smith (2004) attempt to decompose the earnings gap between women and men in the UK. They rely on the adapted version of the human capital

model (Romer) in the form of a regression, with wage being a function of a number of fairly standard independent variables (i.e. education, experience) as well as more specific measures related to gender inequality (i.e. occupational segregation). Thompson and Ben-Galim (2014) applied IPPR's tax-benefit model to assess the impact of a rise in women's employment rate on households and public finances. The report of the Women's Business Council (2013) used simple extrapolations based on the readily available data on women's employment level and wages to produce an approximate net benefit expressed in the form of percentage of UK GDP.

The most common approach in the reviewed microeconomic research involved various forms of regression analysis. Riley, Metcalf and Forth (2008) attempted to evaluate the effect of equal opportunities policies on the productivity and profits of businesses using multivariate regression analysis with instrumental variables and matched comparison analysis. Similarly, Gregory-Smith, Main and O'Reilly (2012) examined, *inter alia*, the performance of companies in relationship to the prevalence of women in boardroom positions through a series of regressions where shareholder return (TSR), return of assets (ROA), return of equity (ROE) and the logarithm of price to book ratio (LnPTOB) were used as dependent variables. They used the data on FTSE 350 companies from the period 1996-2011⁽⁸⁵⁾. The focal variable was the share of women in the boardroom of a given company. Furthermore, Olsen and Walby (2004) used British Household Panel Survey data and regression analysis to investigate what proportion of the gender pay gap can be explained by 'direct discrimination' as well as by other type of factors such as rigidity of the labour market, education or demographic characteristics. Hart, Martiarena, Levie and Anyadike-Danes (2010) used a probit model to examine the role of gender in understanding the growth propensity of new ventures.

There are also selected examples of research that rely on more advanced statistical techniques. For instance, in order to estimate the impact of discontinuity in access to free childcare on women's employment, Brewer, Cattán, Crawford and Rabe (2014) used the semi-parametric regression discontinuity technique combined with the difference-in-difference approach. Olsen and Walby (2002) attempt to explain the factors contributing to the gender wage gap by constructing a fairly complex regression model, demonstrating a very rigorous approach to the selection of key variables.

Often, the reviewed literature devotes considerable space to robustness checks. Analysis of collinearity, use of Hausman specification and/or controlling for an extended number of factors in the conducted regression analysis are all fairly common.

A 2014 study by EIGE used cost-benefit analysis with data from the triangulation of various qualitative and quantitative data sources at national and EU level. The key technique applied was the identification of the key costs components, attachment of the likely costs level and extrapolation at the country and EU level.

The most common sources of data used in the reviewed literature are the British Household Panel Survey (BHPS), the

British Labour Force Survey (LFS) and the British Workplace Employee Relations Survey (BWERS).

The studies typically use employment rates, increase in women's or household income, increase in productivity, and savings/additional income to state budget, to assess economic impacts of gender equality. In rare cases, impacts also refer to increases in company's profitability.

How does gender equality affect economic outcomes?

An increase in the employment rate, for instance via more affordable/accessible childcare, is typically seen as a major channel through which the reduction in gender inequality can contribute to economic growth in the UK. The international evidence suggests that despite relatively high women's employment rates, the UK has comparatively low maternal employment rates. National employment data from 2014 show that the employment rate for working age women with dependent children was 69.6 %, compared to 67.5 % for those women without dependent children. Although the UK maternal employment rate oscillates near the OECD average, it is still lagging behind the top performers such as the Netherlands, or Scandinavian countries (Thompson and Ben-Galim, 2014).

This led some authors to model the decision to become employed jointly with the decision to use formal childcare, both of which are influenced by the conventional determinants such as the expected price of the available childcare and the expected wage of the mother (Viitanen, 2005). As argued by Plankett (2011): 'One of the key distinctions of the UK childcare service system is its small generosity as well as abrupt cessation once children start school.' Childcare costs in the UK are relatively high in comparison to other countries. Childcare cost in the UK is currently close to 30 % of the net family income of full-time dual earner couples and 20 % of the net family income of 1.5 earner couples on median incomes (Thompson and Ben-Galim, 2014).

Furthermore, the gender wage gaps are often highlighted as another example of gender inequality, which has material economic implications. The gender pay gap has been narrowing systematically in the UK from 13.2 % in 2005 to 9.4 % as of 2015 (for full-time workers) (ONS, 2015). This earnings gap is not uniform but it is substantial across sectors of the workforce, varying between 7.3 % in low-wage workplaces to 36 % in workplaces located in the north-east (Mumford and Smith, 2004). After decomposition of effects contributing to the gender pay gap, Mumford and Smith (2004) argued that the workforce segregation was found to account for 29 % of the gender pay gap.

⁽⁸⁵⁾ As accounting-based performance measures are serially correlated, for this reason the authors used the lag of the dependent variable in the estimates.



In similar research, Olsen and Walby (2002) pointed to the gender pay gap resulting from lower productivity, which in turn was argued to be a source of two types of factors. The first is that of skills deficits, a key component of human capital. Women may have less education and training than men. The second relates to a series of failures in the labour market, including labour market rigidities associated with sex segregation by occupation and industry. More specifically, the authors reported that gender differences in lifetime working patterns accounted for 36 % of the pay gap in Britain. Rigidities in the labour market, including those that concentrate women into particular occupations and mean that they are more likely to work in smaller and non-unionised firms, accounted for a further 18 % of the pay gap while 38 % was due to direct discrimination and differences in the labour market motivations and preferences of women as compared with men. The remaining 8 % was due to women's lesser educational attainment in the past. Interestingly, the authors also estimated that if occupational segregation were to be reduced so that women's and men's share in occupations was 50:50, women's wages would rise by 13 %. However, the authors acknowledged that such gender characteristics are captured by independent variables such as education, or years of work experience.

In the same vein, Azmat (2015) admitted that gender differences in the labour market could be due to pure discrimination (reflected for example through occupational segregation), but he also acknowledges that some inequalities could be related to differences in productivity and preferences between women and men. Analysis of which factor is most important is inherently difficult because of the unmeasured confounding factors and the interactions between the different factors (Azmat and Petrongolo, 2014).

In addition to the lower women's employment rate and gender pay gap, the reviewed literature also explored other potential links such as:

- The effect of equal opportunities practices on British and Australian company performance (Perotin, Robinson and Loudes, 2003). The authors found that equal opportunities policies were associated with higher productivity in all groups except British SMEs. In terms of the factors that lead firms to adopt the policies, the authors concluded that the productivity effects observed for larger enterprises cannot be attributed to reverse causality. Overall, effects of equal opportunity policies on profit, however, were found uncertain given that the cuts in costs that may result from productivity improvements may be offset by increased labour costs and policy implementation costs.

- Relationship between equal opportunities policies and business performance (Riley, Metcalf and Forth, 2008);
- Relationship between gender-diverse boardrooms and corporate performance of UK listed companies (Gregory-Smith, Main and O'Reilly, 2012).

Finally, one piece of research (Hart, Martiarena, Levie and Anyadike-Danes, 2010) concentrated on the effects of gender on the growth propensity of new ventures. The authors developed the proposition that women entrepreneurs have a general aversion to debt finance, with only a few accessing external finance in either starting up a business or for any growth plans which they might have. Potential undercapitalisation of these businesses at the start-up stage is believed to have significant implications on the future growth of women-led businesses. The authors found that after controlling for selection into entrepreneurship in the first place, there are no significant direct gender effects in the model that explain high-growth entrepreneurship, even though they observed a significant and positive effect between the amount of start-up capital and the outcome of high-growth entrepreneurship. Consequently, they pointed to the indirect effects of gender in the growth model, arguing that women entrepreneurs start their new business ventures with less capital than men and this has a negative effect on high-growth enterprises.

In the study commissioned by EIGE (2014) that looked at a previously only marginally explored topic of costs of intimate partner violence against women, the authors proposed a methodology to estimate the costs of such violence (in monetary terms). The approach implied the selection of the set of the most significant and probable costs categories (i.e. costs related to the criminal justice system and health services), to which specific values were attached based on the existing quantitative and qualitative evidence in order to extrapolate it at the Member State level.

Key macroeconomic impacts of gender equality

Thompson and Ben-Galim (2014) found that a rise of 5 percentage points in the proportion of working mothers employed full-time in Britain would generate a net positive fiscal impact of approximately GBP 700 million annually. This would be a combination of increased tax revenue and savings on out-of-work benefits. At the household level, an increase in women's employment rate by 5 percentage points would result in an increase in family income by 20 to 28 % (effect varying between low and middle income). Unsurprisingly, impacts were found to vary depending on

the scenarios reflecting the different maternal employment rates ⁽⁸⁶⁾ assumed in the analysis.

The research of the Women's Business Council (2013) found that as of 2012 there were over 2.4 million women who were not in work but wanted to work, and over 1.3 million women who wished to increase the number of hours they worked. The report argued that by equalising the labour force participation rates of women and men, the UK could further increase GDP per capita growth by 0.5 percentage points per year with potential gains of 10 % of GDP by 2030. Yet the impact was found smaller under more conservative assumptions regarding the potential size of the increase in the employment rate (i.e. an increase of 1 or 2 percentage points). Key existing barriers hampering women's participation cited in the report are ineffective talent management, the high costs of childcare, and insufficient flexibility in terms of working time.

A study by Plankett (2011) investigated the UK and international data on women's employment rate and considered several possible influencing factors: the extent of publicly funded childcare; the length and generosity of maternity, paternity and parental leave; the extent and design of cash benefits; and the level of effective marginal tax rates on second earners. The study found that the low generosity of the UK childcare system as well as the abrupt ceasing of support once children start school have a critical negative impact on women's employment rate. Furthermore, the study of Brewer, Cattan, Crawford and Rabe (2014) found that being entitled to free part-time early education does increase employment rates among mothers, especially for those with no younger children, and seems particularly likely to encourage mothers to move into part-time work. In the same vein, Viitanen (2005) estimated that a 25 % childcare price subsidy would increase labour force participation rates of married mothers of pre-school-age children by 3 percentage points. The same study found that use of formal childcare would also increase such participation by 3 percentage points.

Gregory-Smith, Main and O'Reilly's study investigated the relationship between gender diversity in the FTSE 350 companies in the UK and their performance. The authors found no significant link between the focal variable capturing the share of women in boardrooms and the company's performance indicators such as TSR, ROA, ROE and log of PTOB.

The EIGE (2014) study derived the cost of intimate partner violence against women at the EU Member State level. In the UK such cost was found to be EUR 15.3 billion while

the cost of gender-based violence against women was estimated to be EUR 28.4 billion.

Conclusions

Increasing the women's employment rate was found to be a major channel through which gender equality could have a positive impact at the aggregate level of economy. Some evidence suggests that a rise of 5 percentage points in the proportion of full-time working mothers in Britain would generate a net positive fiscal impact of approximately GBP 700 million annually. At the household level, an increase in the women's employment rate by 5 percentage points would result in an increase in family income of 20 to 28 % (effect varying between low and middle income). In a more optimistic scenario, assuming equal labour force participation rates for women and men, this could result in an additional 0.5 percentage points of GDP per capita growth per annum, or additional cumulative growth of 10 % of GDP by 2030 (Thompson and Ben-Galim, 2014). Of course, these estimates are largely dependent on their assumptions and ignore some important aspects such as ability of labour markets to absorb new cohorts of women, or potential impact of new entrants on wages.

In addition, there is also a substantial strand of research focusing on determinants of the gender pay gap (Olsen and Walby, 2002; Mumford and Smith, 2004). Despite the narrowing of the gender pay gap in the UK over the last decades, there seems to be fairly broad consensus that factors related to pure 'gender discrimination' still account for a considerable proportion of the gender pay gap.

Some common recommendations, in particular in relation to increases in women's employment rate, relate to increases in childcare provision.

Bibliography

Azmat, G. (2015), *Gender Gaps in the UK Labour Market: jobs, pay and family friendly policies*.

Brewer, M., Cattan, S., Crawford, C. and Rabbe, B., (2014), *The impact of free, universal pre-school education on maternity labour supply*, Institute of Fiscal Studies.

Drolet, M. and Mumford, K. (2009), *The gender pay gap for private sector employees in Canada and Britain*, IZA.

European Institute of Gender Studies (2014), *Estimating the costs of gender-based violence in the European Union: Report*, available at: <http://eige.europa.eu/node/393>

⁽⁸⁶⁾ 58 %, 60 %, 62 % and 67 %. Note that the baseline based on the Family Resources Survey in 2012 was approximately 57 %.



Gregory-Smith, I., Main, B. and O'Reilly, C. (2012), *Appointments, pay and performance in UK boardrooms by gender*.

Hart, M., Martiarena, A., Levie, J. and Anyadike-Danes, M. (2010), *High Growth Aspiration and Female Entrepreneurship in the UK: Unravelling the effects of gender from business characteristics*.

Manning, A. and Swaffield, J. (2005), *The gender gap in early career wage growth*, CEP.

Mumford, K. and Smith, P. (2004), *The Gender Earnings Gap in Britain*, IZA.

Olsen, W. and Walby, S. (2004), *Modelling gender pay gaps*, Equal Opportunities Commission.

ONS (2015), *What is the gender pay gap?*, available at: <http://visual.ons.gov.uk/what-is-the-gender-pay-gap>

Perotin, V., Robinson, A. and Loundes, J. (2003), *Equal opportunities practices and enterprise performance*, ILO.

Plunkett, J. (2011), *The missing million. The potential for female employment to raise living standards in low to middle income Britain*, Resolution Foundation.

Riley, R. Metcalf, H. and Forth, J. (2008), *The business case for equal opportunities: An econometric investigation*, UK Department for Work and Pensions.

Thompson, S. and Ben-Galim, D. (2014), *Reforming childcare to support mothers into work*, Institute for Public Policy Research (IPPR).

Walby, S. and Olsen, W. (2002), *The impact of women's position on the labour market on pay and implications for UK productivity*.

Women's Business Council, (2013), *Maximising women's contribution to future economic growth*.

Viitanen, T. (2005), *Cost of childcare and female employment in the UK*.

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About the study

The study on the 'economic benefits of gender equality' is unique in the EU context. It's the first of its kind to use a robust econometric model to estimate a broad range of macroeconomic benefits of gender equality in several broad areas such as education, labour market activity and wages.

The overall results of the study show that more gender equality would lead to:

- Between 6.3 million and 10.5 million additional jobs in 2050 with about 70% of these jobs taken by women
- Positive GDP impacts that grow over time
- An increase in GDP per capita of up to nearly 10% in 2050

The study used the E3ME macroeconomic model to estimate the economic impacts of improvements in gender equality. E3ME is an empirical macroeconomic model tailored specifically to model outcomes at EU and Member State level.

The outputs of the study on economic benefits of gender equality in the EU include 9 publications:

- 1) Literature review: existing evidence on the social and economic benefits of gender equality and methodological approaches
- 2) EU and EU Member States overviews**
- 3) Report on the empirical application of the model
- 4) How the evidence was produced: briefing paper on the theoretical framework and model
- 5) How the evidence was produced: factsheet on the theoretical framework and model
- 6) Economic impacts of gender equality in the EU policy context: briefing paper
- 7) Economic impacts of gender equality: briefing paper
- 8) How gender equality in STEM education leads to economic growth: briefing paper
- 9) How closing the gender labour market activity and pay gaps leads to economic growth: briefing paper

All publications, detailed study results and methodology can be found on EIGE's website: <http://eige.europa.eu>

